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How Big Must the Brood Nest Be?

By Wendell T. Card
Pennsylvania

I WAS interested in Lynn C. Reynolds' article (page 330, August issue, American Bee Journal) regarding the necessary size of the brood nest.

The tendency of late years has been to give queens unlimited room to lay, depending on an enormous colony to hustle in a big honey crop from a favorable flow. Where flows are short and intense this is probably the course most likely to succeed in the average season. However, I think there is much room for thought in the suggestion that good bees can produce a successful colony in a small brood space.

The **most profitable** colony I have this year is headed by a 1931 Italian queen introduced late last fall. Owing to lack of time to build up, they were weak this spring, and if my memory serves me correctly I gave them a frame of brood and a frame of honey about May 15.

This colony has been in a single eight-frame hive body all season with one or two comb honey supers. They have worked steadily, shown no indication of swarming and put up seventy sections of honey, sixty-five of which graded fancy and five No. 1. They are at present filled with young bees and gradually replacing emerging brood with winter stores.

The colony beside them has been in **two ten-frame** hive bodies all season. They had a 1931 hybrid queen, a magnificent layer, which has produced a very powerful colony. They have yielded about ninety pounds of extracted honey and will, I think, have about fifty pounds to winter on. It has been more difficult to manipulate than the small hive, though also showing no desire to swarm.

I realize that the yields mentioned are nothing to brag of, but they are

well above average for this year with us and illustrate the point.

Colony No. 2 probably used more than twice their surplus yield in rearing their brood. That means just so much nectar taken from the field which might have been surplus if all colonies were like No. 1. Colony No. 2 used twenty **good** brood combs costing 50 cents each for their household affairs; No. 1 used eight. The extra hive body nailed and painted costs me more than a dollar. This makes a difference of seven dollars in the investment cost of these two colonies during the active season. Multiply that by five hundred or one thousand colonies and it's no mean item.

At this point I know many of you will say, "Yes, but—"

Well, figure it out for yourself. One frame K. D., delivered 7c
Nailing 1c
Wiring frame and fixing fdn. 2c
Full sheet foundation 10c

Total 20c

This allows "the bees" 30 cents to pay for their labor and wax in drawing the foundation into brood combs. Now consider that a **good** brood comb must almost always be drawn over a strong colony during a good honey-flow. Charge up those which are not good for brood rearing or which are damaged or broken while new and you will find that 50 cents each for A1 brood combs is a reasonable figure. Furthermore, unless you have very cheap or very efficient labor, the cost of nailing, etc., may well run up to 5 cents a frame.

Another thing: Queen No. 2 has laid so heavily that she probably could not head a good colony next year; queen No. 1 in all probability can, and if so there is a further saving every second year of the cost of requeening.

Therefore, all things considered, I am convinced that the small colony

produced a dollar's worth of salable honey at a lower net cost than any other colony I had this year, and produced a very creditable amount of it.

Now please understand I am not expecting any general revolution in the beekeeping industry to follow the appearance of this article. So many items affect honey yields that an isolated case proves nothing. But most of my bees are in two-story brood nests and this season have used too much of the available nectar supply in producing bees. I have never owned more than thirty colonies at one time, but I have kept bees for the past twenty-eight years, take two bee journals, own a fair bee library and love and study my bees. I submit these observations to the brotherhood for what they may be worth. I do feel, however, that in these times of slow markets and low prices we should leave no stone unturned that might lead to lower production costs.

[Although our friend has convinced himself that the colony in eight-frame hive has paid him best, yet nine-tenths of those who own bees in eight-frame hives have found it necessary to increase the hive to two stories with what is now commonly called a food chamber, because it is very often found that the colony cannot be supplied with enough food to carry it from one honey crop to the next in a single eight-frame story. Our friend does not seem to appreciate the fact that combs at 50 cents will be carried from one year to another for a number of seasons, making the cost very light. It is a net loss to have a queen so cramped for room that she cannot lay all the eggs that she is capable of producing to supply workers for the honey crop. For these reasons, people are constantly dropping the ordinary eight-frame L hive for wider hives with deeper frames, so that the brood and food chamber is all in one.—Editor.]

I Say "Yes, They Do Move Eggs"

By Moody Brenneman
Indiana

On page 407 the question is raised, "Do bees move eggs?" The editor thinks "No." Allen Latham in another paper some years ago says "No," so when the writer says "Yes" he realizes he is bucking pretty good authority.

However, I will tell some of my experiences and leave it to the reader to draw his own conclusions. In the first place, at two different times some years ago, while examining my colonies for eggs to determine whether or not they had a queen, I found in each case one cell only that contained an egg. On examining these colonies a week or so afterwards, I found the one cell containing the egg, but no more. Why the eggs did not hatch I do not know, unless it may have been that they were about ready to hatch when transferred from one colony to the other and may have gotten injured in the operation.

At another time on examining a young colony, an afterswarm, a few weeks after it was hived, I found no eggs or brood whatever. In about two weeks more I again examined the colony to find one nice, large, capped queen-cell. No eggs or other brood of any kind. This cell produced a queen that was perfectly normal, in due time building the colony up to full strength.

Still another time, on introducing a queen to a colony that had been queenless for a week or two, I used a J. Smith introducing cage. When releasing the queen, I found one egg only outside the cage, and this in a started queen-cell. Will the skeptics please explain each of these cases?

As to laying workers being present in a colony containing a fertile queen (as mentioned in the editor's notes), I am wondering whether this fertile queen was a laying queen—that is, were the laying workers and the queen both laying at the same time?

If not, I am wondering whether this is not a case of a queen laying before she has mated? An experience of my own along this line may be of interest.

When taking the bee inspector on an inspection tour a few years ago, on looking over a colony I found no worker brood of any kind, but only a little uncapped drone brood. The only explanation I could give was either laying workers or a drone laying queen.

A month or two later when going over the same route checking up on



Here is a picture of my big observation hive and also a clipping from one of our newspapers which calls it "The largest beehive in the United States." This observation hive was set up close to a window in my living room and could be seen any time during the day or evening. The hive was filled with frames and full sheets of foundation and a two-pound package of bees put in the twelfth of April last spring and fed. The bees did the rest.

Our picnic was held on August 15 and the picture was taken three days later, during the noontime, when most of the bees were at work in the field. The upper four frames are not so packed with bees as those in the center or the lower ones.

In commenting on it, our paper

diseased colonies, I again examined this colony and found the work of a normal queen—worker brood in all stages of development. This was a problem I could not solve at that time.

The next year I found the same thing in my own yard. On examining a colony about two weeks after it had swarmed, I found no worker brood, but a few cells of uncapped drone brood. After about two more weeks I found a large amount of beautiful worker brood. After considering the matter I concluded that queens do sometimes lay a few eggs before mating. I related the same experience one time at our county beekeepers' meeting and asked for an explanation. Inspector Yost, then our Indiana inspector, could give none, but Inspector Baker said he

The Largest Beehive in the United States

By Martin Fink

Here is a short article on a subject which suggests showmanship in public demonstrations of bees and honey. We need showmanship in the publicity of our products. Honey sales are swifter, honey products go faster, everything is toned up by good showmanship, and an observation hive, remember, is an object of universal curiosity.

said: "Mr. Fink displayed his 50,000 bees at K. of C. picnic.

"Visitors at the annual K. C. picnic at Cold Spring saw what is believed to be the largest observation hive in the United States, built last spring by Martin Fink. It is eight feet high, two feet wide, and two frames deep. Its sides are entirely of glass and the work and progress of the bees may be kept under observation at all times. It holds twelve standard Jumbo frames, each one about three inches deeper than the standard. It is estimated that there are about 50,000 bees in this hive."

The observation hive was surely a surprise for the community, as some of the people came fifty miles to see it. After the picture was taken, the frames and bees were taken out and put in a hive and were in good condition for winter.

I have another glass hive which holds twenty-four Jumbo frames. This is surely the largest hive or swarm all the year around.

The honey crop this year was the poorest I ever saw as long as I have kept bees—only one and two supers to the colony.

Minnesota.

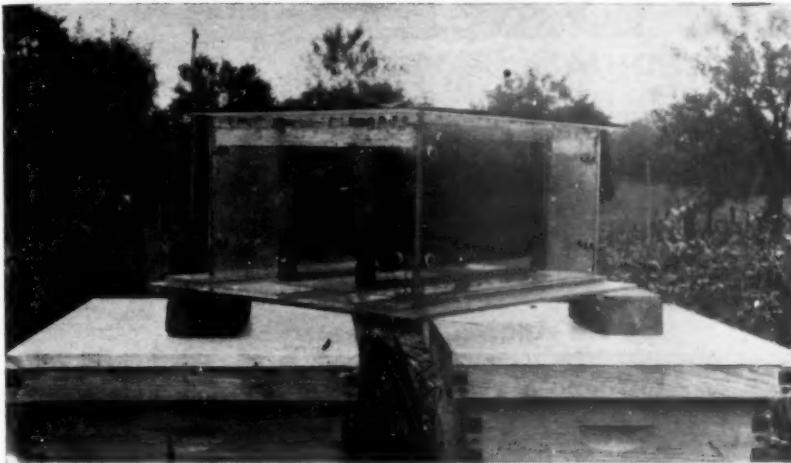
sometimes has queens that lay before mating.

My experience, in the case of Italians at least, with laying workers and queens in the same hive, is that either the queen will in some way stop the operations of the laying workers in short order or else the latter will kill the queen.

[We know that there are some happenings that are difficult to explain. But the assertion that bees bring eggs from some other hive is still more difficult to explain.

Regarding the young queen laying drone eggs, we do not believe that she does this before mating, but that she requires a little time to understand the action of her spermatheca and lays a few eggs which are not fertilized, although she has mated.—Editor.]

Full View Observation Hive



This observation hive, made entirely of glass, except for the eight bronze angle braces at the corners, was designed and built by a worker in a glass factory near Washington, D. C.

The idea was to make a hive without wood. A good grade of plate glass was used. Top and bottom are plain sheets of glass. Strips of glass under the sides and back raise the body to make an entrance in front.

Similar strips cemented onto the inside of the ends near the top serve as rabbets for the frames to rest on.

Its weakest feature is in the corners, where a slight racking would be likely to break the glass at the braces. By handling it on its bottom this danger is avoided. It has the advantage of giving a view of operations inside from every point.

Walter H. Hull, Vienna, Va.

for which so many real and indisputable advantages may be shown, I

Death of F. W. Hall

F. W. Hall, well known Iowa bee-keeper, died at his home in Colo, on October 25, of heart failure, following an illness of two weeks. Mr. Hall has been engaged in commercial bee-keeping for many years and is well known to Iowa bee men. He is survived by three daughters.

Honey for Diabetics of No Real Benefit

On page 435, in an editorial comment, we asked the question, if any of our readers are physicians, to tell us about the use of honey as a safe sweet for diabetics. Elmer Carroll, of Central Lake, Michigan, passed the question on to Dr. D. H. Duffie, of Central Lake, and his reply is as follows:

"The rumor that honey is safe for diabetics is, in my belief, a deplorable and pernicious myth. It is true that levulose, one of the sugars of honey, does behave strangely in the body, and one leaping at conclusions might easily infer that it would be useful in diabetes. However, after years of testing by the great Dr. Elliott P. Joslin, of Boston, and others, it has been found that, although the first effects seemed hopeful, they do not last and its action is only apparent and not real.

"Honey is such a valuable sweet,

should regret seeing any reputable bee people trying to boost it in such a narrow field where its intrusion smacks of quackery and is, in my esteem, dangerous for the diabetic."

This letter seems to us to settle the matter.

Has the Institute Gone Over the Top?

Has the American Honey Institute gone over the top? I should say it has. An auditor for the Maryland Casualty Company just called here. He covers every state east of the Mississippi.

You should hear him tell how honey is served in a large number of restaurants. He seems to think the publicity that honey is receiving has brought this about. He finds honey being served in many of the places he frequents.

In one place in Detroit where he has been eating for six years, he remarked to the proprietor: "You have finally come to it"; to which the proprietor answered that he was forced to and that the use of honey was bringing him trade.

This auditor is a man with an eagle eye—one that is quick to see things. It is likely that the low price of honey is also a factor in the movement.

A. G. Woodman, Michigan.

How Missouri Teaches Beekeeping



A view of the apiary used as a laboratory for students in apiculture at the University of Missouri. Caucasian and golden Italian bees are

used. Students carry on all operations, including marketing. This is a group of summer students.

T. E. Burkett, Missouri.



EDITORIAL

AMERICAN BEE JOURNAL

Stick to the Bees

Some months ago we printed a story of Ed Brown and his life among the bees. Ed's father advised him when he was uncertain as to the career which he would follow, to stick to the bees. Ed has stuck and a more enthusiastic beeman is hardly to be found.

Members of our staff have been much impressed with the fact that the beekeepers are the most optimistic men we met in these trying times. The beekeepers are not getting rich. They are faced with slow markets and low prices and the same depressing influences that confront men in other occupations. Most of them appreciate the fact that they have advantages over men in many other lines of business. Their product is not perishable and they are not compelled to dump it on an unwilling market regardless of what it will bring. Their crop can be harvested without a large outlay of cash such as is necessary to the farmer who is obliged to pay heavy taxes, and other unavoidable operating expenses and part of the year is available for other lines of endeavor to supplement the normal source of income.

It is a pleasing contrast to talk with a group of beekeepers after hearing the loud complaints of an average group of townspeople. Brown's father gave him good advice when he said stick to the bees. Those favorably located beekeepers who have done so have fared fully as well as any other industry and far better than most of them. Now that there are signs of better business ahead we may expect better markets and rising prices. We repeat that it is good advice to any beeman who knows the business and likes the work, to "stick to the bees."

A Remedy for Fire Blight

Much interest has been manifested in the work of Professor H. R. Rosen of the University of Arkansas regarding fire blight in the orchard. Doctor Rosen's conclusions regarding the relation of the honeybee to the spread of blight were published in this magazine in the May and July numbers in 1931.

In Science Magazine for November 11, 1932, appears an article relating to experiments conducted in an effort to control fire blight by spraying. A weak application of Bordeaux mixture was applied to the open blossoms on two occasions with the result of greatly reducing the blight infection. It has required a long effort at education to convince the fruit grower that he should not spray while the blossoms are open for fear of poisoning the insects on which he depends for orchard pollination. It is hardly probable that two weak sprays of Bordeaux alone applied when the blossoms are open will cause injury to the bees.

The question arises, however, as to whether the fruit grower will go to the trouble of spraying for blight while the blossoms are open and repeating the process a few days later with arsenate of lead to control the codling moth. The danger is that he will try to do the whole job at one operation. Since to control blight the one spray must be applied while the flowers are open, if he adds the arsenate and applies it at the same time, wholesale poisoning of honeybees is in prospect.

The control of pests by poison offers many serious problems. When we destroy a damaging insect in this

manner, much care is necessary to avoid killing the friendly ones at the same time. Beekeepers will watch with great interest the progress of this work and hope that some plan will develop which will at the same time control blight and avoid injury to the bees.

An Anniversary

On the first of November, Mr. and Mrs. C. P. DaLant celebrated the anniversary of fifty-seven years of married life. They have seven children, eleven grandchildren and two great-grandchildren. A pretty good record!

Honey Week

We hope that our readers have heard many of the interesting programs put on the air during Honey Week. Many of these have been very high class. The good will thus evidenced by many national advertisers is invaluable. Many thousands of dollars are represented in the cost to the concerns who have included honey in their broadcasting schedules. The value to honey is increased rather than otherwise when it is tied up to another product, as has been the case in numerous instances. When the housewife learns that honey fits in well with other articles with which she is already familiar and which already have a place on her menu, she is more likely to include it.

If the American Honey Institute had done nothing more than to inaugurate National Honey Week, it would justify all the money expended upon it during its entire history. The public attention could not be called to honey so successfully in any other way.

Few there are who have not had their attention called to bees and honey many times during that week. Many firms have called it to public notice through friendly comment in their advertising. Newspapers have given news stories concerning it. Numerous displays of honey and bees have appeared in store windows, banks and other public places, and the radio owner was sure to run into some kind of honey mention in connection with the large number on the air.

In no other way can our industry find as much help in regaining its former prosperity as in cultivating public good will. It is only through an agency like the Honey Institute that this can be done. The Institute must be maintained at any cost.

And yet we support this great Institution with a miserable \$5,000 budget and cannot seem to get enough interest among the members of our profession to continue its support. What is the matter with us?

On the basis of \$1.00 per ton or twenty pounds of honey per ton, there is no excuse for any beekeeper in the entire United States not helping. There may be no money in the pocket, but while there is honey in the can there is no excuse for non-support. A list of honey receivers is given on page 467.

Canada and the Tariff

Recent events have demonstrated what we have long contended, that the world at large must benefit or suffer from trade relations. Even the largest industries are now awake to the fact that restrictive tariff walls are hampering trade and thus tending toward poverty rather than prosperity.

It is true that temporary profits often blind men to the final result of such restrictions. Just now the beekeepers of Canada are profiting by the restrictions which favor trade between countries within the Empire. Shutting honey from the United States off the markets of

England provides an outlet for Canadian honey. Their product is moving out and the price is rising. This is another example of the results of American tariff action. As long as we could keep others out of our markets and still hold our own export trade we seemed to prosper. Soon, however, other countries took the same action and shut us out of their markets. Since our own was not sufficient to absorb all our goods, our trade began to decline, factories closed, men were thrown out of employment and suffering resulted. It would have been far better for all to have continued on a basis of reasonable equality which permitted a free flow of goods to all markets.

As soon as the temporary benefit of the trade within the Empire movement has subsided, Great Britain will find herself in the same position that we are in. Owen D. Young, head of General Electric, one of the world's largest corporations, has recently stated that "It is the restoration of trade alone which holds not only the economic but the social salvation of the world." Unless we are content to return to the meagre income and low standard of living of our fathers, we must open the gates for trade with all the world. On this basis alone can real and permanent prosperity be secured.

Honey Butter

There is much confusion on the part of the consuming public because of terms used by the beekeepers. Recently we have heard a product called "honey-butter" advertised extensively over the radio. It is described as a mixture of pure honey and pure butter and can therefore very properly be called "honey-butter."

In many places, however, granulated honey is sold as honey-butter because of the fact that it resembles butter when crystallized. In one case the product is pure honey alone; in the other it is a mixture of butter and honey. The use of the terms extracted honey and strained honey to indicate honey in the liquid form has puzzled purchasers not a little. In that case two different terms were used to indicate honey in the same form. Now we have the same name given to two entirely different products.

We want the public to become familiar with honey in the crystallized form, whether it be called candied honey, granulated honey, honey butter, or some other name. Those unfamiliar with our product will be slow to understand the use of so many different terms for the same thing or the use of the same name for different products.

Odors in Bee Diseases

Mr. R. E. Foster, of Gainesville, Florida, inspector of apiaries for that state, sends us an article on "The Odor Test in Apiary Inspection." It is on page 481. We might remark that, with a number of our European colleagues, American foulbrood is named "the sticky bee disease" and the European "the stinking bee disease." Yet all agree that the stinking odor of European foulbrood develops only when the dead larvae begin to rot. Then the odor is that of putrefaction similar to that usual in decaying flesh.

Reading Bee Books

Some beekeepers imagine that they can be successful in the bee business without having studied it. This is a mistake. Everyone who keeps bees should know the main facts about their nature, their habits and needs. A question department in a bee magazine is of great use, because there are many unknown things that the beginner needs to learn and that cannot be found in books. But the natural history of the honeybee needs to be learned thoroughly, and this can only be done with a textbook.

The Waxmoths

It is useless to remind our readers that the waxmoths cannot reproduce in a cold room in winter and that both the moths and their brood will be killed if kept over winter in a cold room. But they must beware of mice and rats. One mouse can destroy a whole pile of empty combs of the best quality.

Does Beekeeping Pay?

Now and then we meet a beekeeper who says that beekeeping has ceased to be a profitable business and that he is going to sell his bees or kill them off and quit.

It is true that honey is cheap. But is it any cheaper proportionately than other products of the farm or of the garden?

Enquire of the farmer whether his wheat crop or his corn crop has brought him any profits. You will be informed that it would pay if he could sell it for a reasonable price. But he keeps his wheat in the bin because he is unable to get over 25 cents per bushel, and he is going to use his corn for fuel in place of coal. It does not pay.

Must we, then, sell our farm and quit? Things like these have happened long ago, but conditions changed and we found ourselves again with paying crops.

Beekeeping is more profitable than farming. A beekeeper with two hundred colonies of bees makes more profit, at less cost, than the average farmer of eighty acres. His expenses are less and his labor much easier. Honey is not any cheaper, really not so cheap as the present prices of corn and wheat. Let us brace up and keep on.

Where to Sell Your Honey

Many beekeepers wonder where is the best market for honey. If you have only a few hundred pounds, the best market is right in your own vicinity. You will have no idea of how much you can sell of it until you try your next-door neighbors. In this time of barter, you can exchange honey for almost anything you need. When we lived on the farm we always gave honey in exchange for horseshoeing, tin repairing and other small requirements. You will never know how much honey you can sell until you try it.

Selecting Colonies for Next Year's Breeding

While you still have the record of crops on your mind, it is a good plan to take note of which colonies you want to breed from next year, not only in queens, but in drones. We should have drones from our best colonies and queens from other best colonies, so as not to inbreed too much. If you have neighbors with common black bees, it is well to induce them to Italianize, and do it for them cheaply, as their bees will be sure to breed plenty of drones which will not cost you anything. We always did Italianize our neighbors' bees at low cost. It was profitable to us as well as to them.

Are Drones Useful for Other Purposes Than Queen Fertilization?

A number of people assert that drones are useful in the matter of brood rearing, as they produce a great deal of heat and remain in the hive all through the day and night, except for an hour or two during the warm part of the afternoon.

This looks like good argument until one notices that the drones are killed by the bees if a cold spell comes during the spring, at the time when they would be most useful to the warmth of the colony.

The fact is that drones are reared in large numbers because the young queens mate in the air, away from the hive. It is thus indispensable that there should be a large number of them in the field at the time when the young queen is to mate, for the queens are valuable to the colonies and cannot be spared without great danger of queenlessness. So drones are naturally reared in large numbers in every hive. However, the drones of one colony are sufficient for an apiary. So the prudent beekeeper keeps drone-combs in only such colonies as he wishes to breed from. Some drones are always reared in every colony, because there are always drone-cells here and there. But thousands of drones in colonies from which we do not wish to breed are undesirable. Winter is the best time to examine your old combs and remove those that contain too much drone-comb and render them into beeswax.



A Street of Stores

By Robert Mead
Vermont

NO matter whether your nearby town has a population of 15,000 or 1500, there is probably one street in that town that is the main merchandising district. On it will be found the main grocery stores, probably a hardware store or two, the bank, as well as other stores, such as department and dry goods stores.

The stores we are mainly concerned with are the grocery stores, as it will usually be in these that honey is handled. Now let's consider things for once from the viewpoint of the storekeeper. In the past, storekeepers have been accused of a lot of things, unpleasant things, when it came to retailing honey. They did not care to push the sale of it, we are told. They hid it away on a back shelf and allowed it to granulate. They did not appear to have the proper spirit of cooperation. Those were only a few of the charges against the storekeeper. Perhaps most of them were true, and of course when things do not boom along it is easier to accuse people of things than it is to do something about it. I am fond of accusing people myself, but as time goes on I find it gets so few good results that it is better to tackle the problem in some other manner.

Of course most every beekeeper realizes that storekeepers are not in the business for their health, nor do they keep store in the same spirit that they go fishing. It is their business. Upon its success depends their ability to support themselves and family, pay taxes or rent and provide for the future. Of course just at present most anyone is satisfied to provide for the time being, if he can, but that does not exclude the desirable habit of saving for a rainier day if possible.

Now a store depends largely for its income upon profit or commission on goods sold. The percentage of profit on various staple food articles varies somewhat, depending usually upon the rate of demand for said article. Take sugar; sugar is a staple article very much in demand and consequently often handled at a very small percentage of profit. In fact, chain stores often offer it at the wholesale price. Other articles on which the percentage of profit is usually low are soaps, soap powders, butter, yeast, etc. Canned goods often come in this line also, as they are much in demand and not perishable. When we come to perishable goods, such as head lettuce, melons and other fruit, we find a higher percentage of profit usually charged to cover to some extent the loss that may result from spoilage.

Staple goods are, of course, the storekeeper's best resource. They are items that everyone uses every day. They are often widely advertised under brand names. Wholesalers of these products cooperate with the storekeeper in making up attractive offers, window displays and seasonal specials.

Now suppose you were a storekeeper, that you were doing a fine business in the regular lines and that one day a beekeeper comes along who has more enthusiasm than tact and wants you to handle honey. If, as a storekeeper, you are a hard-headed business man you are at once a bit skeptical. You know that the sale of honey is somewhat slow compared with other lines. You are not inclined to turn over a window display space for an exhibit of honey which may not sell, if by so doing you are going to displace an exhibit of breakfast food, nationally adver-

tised, which is already selling very well. You figure that your total profit, even if the honey does sell, will be insignificant, and so merely as a matter of business you tell the beekeeper "nothing doing."

However, supposing that the beekeeper had approached you somewhat differently. He has some fine comb honey attractively wrapped in cellophane and points out that a small display of it would add to the attractiveness of your sweets counter. That begins to interest you, and you think that after all there may be something in it for you to handle some of his honey.

While it may be unfortunate that people still consider honey as a confection rather than as a food, it is always well to favor any avenue that opens up for its sale regardless of how it is considered. Candy counters are, of course, only one of many places where honey can be attractively displayed to the benefit of both shop owner and beekeeper. In the following paragraphs some others are mentioned that may be worked up according to the situation:

Get the storekeeper interested in displaying honey in connection with food products that it is naturally associated with. Clear glass jars holding a pound of good extracted honey should go well with a window display of prepared pancake flour. Or in sections where 5- or 10-pound pails are popular use the pails. At Thanksgiving time have a few sections of comb honey in the window display of articles for that holiday trade. The same for Christmas.

The idea is to use honey with other products so that the store receives the benefit of sales from more than one item. The storekeeper who would strenuously object to turning a whole window over to a honey display

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might be delighted to use some in a display of Kellogg's products which might include corn flakes, bran, etc., with which honey is normally used.

Other items with which honey might well be displayed are Shredded Wheat, put out by the National Biscuit Company, the Pillsbury products, which include wheat bran and pancake flour; Bisquick, a prepared biscuit flour put out by Gold Medal Foods, Inc., and with dried fruits or any other item with which honey could be served.

In a town of sufficient size to have considerable crowds in its main business section during part of each day, make a study of which stores are patronized most frequently. If you can find a store that is nicely located but that no one seems to stop at, you can probably interest this store-keeper in a display of live bees in an observation hive, with a display of honey to accompany. The live bees should stop some of the crowd and attract attention to the storekeeper's other items as well as honey. It is a curious fact that some stores, although conveniently located, do not attract attention unless some special care is taken to interest the public.

Do not try to overload a store-keeper with extracted honey, especially in the East, where granulated honey is not popular. Most of them are not equipped to liquefy it again, and unless the beekeeper is willing to take it back, the storekeeper may be permanently prejudiced against honey. Use some judgment too in the size of container, if possible using only a standard size which is popular in the section.

Remember that the storekeeper is out to make a living; that he can be of the most help to you if you try to help him, to show him that honey aids in the sale of other foods as well as in itself.

Alpha Clover— A New Honey Plant

By A. William Bowman
Saskatchewan

Common sweet clover is usually regarded as the most productive honey plant. It must now, however, yield its place, for we have another plant that will give several times as much honey to the acre and at the same time makes a much better hay.

Some years ago the University of Saskatchewan discovered mutations of sweet clover in their fields and after careful re-selection named the new variety "Alpha Clover." As soon as sufficient seed was available, a 3-gramme sample was distributed to each of their Field Husbandry Association members.

The new plant has an average of about thirty stems measuring ap-

proximately three-sixteenths of an inch in diameter, instead of the one coarse central stem of common sweet clover; it grows about four feet high and is a wonderful sight in full bloom, for there must be ten times as many flowers as on the common variety.

The number of flowers may be judged by the yield of seed. From my small sample (about half a teaspoonful), planted on a patch 16 feet by 8, I harvested, in 1931, over thirteen pounds of seed. Some members did better and one reported over thirty pounds of seed.

Seed should be available in commercial quantities next fall, for no doubt most of the one thousand members took good care of the seed. Mine was sown in rows to cover two and one-half acres. Judging by previous results, it should yield many bushels to the acre next fall. It certainly produced ample nectar for the bees. They just seemed to swarm on the small patch I had each year.

Beekeepers who own their own sweet clover should mow part of it as soon as the first blossoms show. This year, owing to the drought, the honeyflow stopped abruptly about August 1, when normally it just begins here. What promised a record crop was only 97 pounds average, nearly a failure with us. If I had taken the precautions to mow a few acres of sweet clover early, I should have doubled the crop, for a few plants that have been cut yielded heavily all August.

Korean Lespedeza

A new source of honeyflow has been discovered recently by F. H. Esgar, of Blue Springs, Missouri. It is the bloom of the new Korean Lespedeza, introduced a year ago in Jackson County for hay crop.

Mr. Esgar found that the lespedeza has one other virtue other than for hay, pasture and seed. He visited his acreage of the crop and found that his bees were swarming all over it, taking the nectar from the small red-pink bloom which is in profusion on the plants and will be until the first of October.

James A. Southern,
Missouri.

[This is a very interesting report, although directly contrary to my experience with this plant. I have had Korean lespedeza growing in a small test lot for about five years, but have never seen a honeybee on it, although it reseeds freely.—F. C. P.]

Honey—Its Use in Cookery

This is the title of an extension bulletin, No. 99, by Marie C. Doermann, of New Jersey State College of Agriculture and Agricultural Experiment Station, New Brunswick, published in July, 1932. It gives the food value and uses of honey, care of honey, and honey recipes, filling a bulletin of about eight pages. Those interested, write to New Jersey Agricultural Station, New Brunswick, New Jersey, for Extension Bulletin No. 99.

Odd Hives Present Difficulties

By E. G. Carr
New Jersey



I am enclosing two views of apiaries in New Jersey owned by Hungarians who are using the hive they were accustomed to in Hungary.

These hives, as you probably know, are of the back- or side-opening va-

riety and small tongs are used to handle the frames. The eradication of American foulbrood from such hives is next to impossible, since it is not possible to sterilize the hives without killing bees.

The Activity of Bees in Relation to Cellar Wintering

By C. L. Corkins
Wyoming

IN the prevention of unnecessary work lies the solution of the problem of wintering bees. The gospel of this principle has been preached and repreached in speech and writing the length and breadth of the land, until only the most uninformed keeper of bees does not know it. Its truth cannot be denied. Its importance applies not alone to the bee-keeper of the North. Even in sunny southern California, in the famous citrus belt, it is perhaps more important than in most sections of the North; for there the famous money crop, the citrus flow, comes very early in the spring following a winter devastating to the strength of colonies, not because of low temperatures, but because of mild winter weather. So in southern California the wintering problem is the most important production problem in beekeeping.

Yes, we know thoroughly the principle of prevention of activity or work. But do we know so well just what the factors are which will keep the bees quiet during winter and conserve their vitality for spring brood rearing? From my experience and travels over most of the bee-keeping territory of the country, I'm sorry to say that the answer is emphatically NO.

In the preceding articles I have discussed the factors of the winter activity of bees in relation to outdoor wintering. The discussion here will be largely directed to the principles of the winter activity of bees as they apply particularly to the practice of cellar wintering. And in it there shall be a message not only for the beekeepers who cellar winter bees in the northern and mountain states, but also some suggestions to my good friends in southern California.

Mark Twain has said that everybody talks about the weather, but nobody seems to do anything about it. In outdoor wintering of bees, we have to take temperature and blizzards as they come and adapt our practices accordingly. In cellar wintering we have a big opportunity to do something about temperature. And it is temperature which is the most important factor involved in the prevention of winter activity of bees.

In the previous articles I have suggested that the old theory of the winter activity of bees in relation to temperature was wrong. You will recall that this old theory held three very important points: First, bees form the winter cluster at about 57

degrees F.; second, that as temperatures drop below 57 degrees F. the bees are induced to extra work in order to keep warm; third, therefore, the temperature at which the least winter work was done was around 57 degrees F. and possibly on up to about 65 degrees F.

Now on the basis of that theory our speakers, bulletins and textbooks have advised us to keep the temperature of our cellars at about 44 degrees F., which would give a hive temperature of about 52 degrees or 54 degrees F., just low enough to nicely keep the bees clustered. I am sorry that I must disagree with both the theory and its application which has brought about this general practice in cellar wintering. Since this is a very important issue, it is necessary that adequate reasons for disagreement be given.

It is a great satisfaction to the professional apiculturist to find such a keen interest among practical bee-keepers in research work and the methods by which problems of apiculture are approached. With a knowledge of this interest, in this first article it shall be my purpose to explain as simply and briefly as possible just how a different principle and conception of the winter activity of bees as applied to cellar wintering was determined. Then in the second article we shall examine the results and make our applications to practice.

Since temperature is the most important factor in the winter work of bees, let us first make provision for placing our bees under controlled temperature conditions in which we can duplicate winter weather. For this an artificially refrigerated ice cream cabinet, similar to many you have seen at the corner drug store, was selected. The cooling compartment in this cabinet was large enough to hold a full colony of bees with room to spare. The sides and bottoms of the compartment were surrounded by a brine solution which was cooled by expansion coils hooked to a Frigidaire refrigeration machine. This cooling equipment had a capacity of lowering the temperature to (minus) —15 degrees F. It was also provided with temperature regulation so that a given temperature desired could be obtained with very slight fluctuation.

The compartment containing the bees was especially made with a solid metal lining so that it was air tight. A special one-piece metal lid with suitable conduits was constructed to fit over the compartment so that the

bees could be hermetically sealed into this cabinet.

We might call this sealed compartment in which the bees were placed the "lungs" of the colony, for into this compartment we shall run a tube to introduce fresh air, and run from it another to carry away the waste gases of respiration or breathing, generally similar to our own lungs and windpipe.

All of us know both from experience and our school days that the harder we work, the harder we breathe. The thing in the air that we use is oxygen, which is taken into our body for the purpose of slowly burning our food and transforming it into energy. As this food slowly burns, the gaseous waste products which are given up and returned to the lungs are water vapor and carbon dioxide gas. These are expelled from the lungs of our body when we exhale.

This very same process goes on in the case of the honeybee. And since its food is very largely honey, particularly in winter, the waste products of the slow-burning process in its body are about 98 per cent gaseous water vapor and carbon dioxide. Now, if we measure the amount of carbon dioxide given off by our colony of bees in the cooling cabinet at various temperatures, we shall know just how hard they have worked under different temperature conditions.

To simply explain to the beekeeper how this carbon dioxide output was measured with exacting precision is a very difficult task. But the method is new to the field of biology and it will undoubtedly be interesting to you to gain a general conception of it. So we will follow the path of the air as inhaled into the compartment (the lungs of the colony) and exhaled out through another conduit to the carbon dioxide determination equipment. The "muscles" of the artificial "lungs of the colony" in the cabinet will in this case be supplied by an electric motor attached to a suction pump at the exhaling end of our artificial "windpipe" of the colony and will supply fresh air at the rate of about one cubic foot per hour.

As the air is drawn into the compartment, we pass it through a chemical that will take out the carbon dioxide of the air, so that the air goes to the bees entirely "fresh." Then as it comes out it is passed through another chemical which will take out the water vapor, for it is the carbon dioxide which is to be

measured. The gas now flows to a gadget which is technically known as a "thermal conductivity cell." This cell electrically determines the percentage of carbon dioxide in the gases passing through it to a precision of .05 per cent. It is this "cell" which has made this study possible. We can thank industry for it. Industrialists needed a simple method of finding out the percentage of carbon dioxide in flue gases in big industrial plants where they want to make sure they are burning up every last atom of coal in their furnaces and getting all the possible energy out of it. The "thermal conductivity cell" was the result. This cell, to an electrician, is a simple affair in principle. It has, really, two cells, each of which contains a platinum wire imbedded in quartz. One cell is sealed and contains pure air. Through the other cell the carbon dioxide impregnated air is passed. To each of these spiral platinum wires a constant and exactly similar amount of electricity is given from a storage battery which warms the wires. Now the wire in air containing carbon dioxide does not conduct this heat away as fast as the wire in the chamber

which has pure air in it. And the more carbon dioxide, the slower the wire in this cell cools. This difference in the rate of cooling sets up an electrical current which can be measured with delicate electrical instruments. So the operator sits comfortably at a desk, turns the dials and reads the percentage of carbon dioxide directly from a scale. And it takes but a moment to do it! Now all we have to do is to measure with precision on a gas meter just how much air we have drawn through the "lungs of the colony," and we have the story. Of course there are a lot of gadgets to this equipment which have not been explained, but this is the principle. To us the story was one of months of "blood sweating" to assemble and get into working order a new array of very delicate equipment.

So we have our bees in a sealed artificial lung compartment which can be cooled to any desired temperature and arrangements made to measure their work by the amount of carbon dioxide they give off. Next month let's start the controls and see what happens.

the homes of the rangers and other permanent park residents. When Charlie Brown was stationed at the Carbon River district in Mount Rainier National Park, one bear in particular became quite bold, and as he did not do any damage his presence was countenanced by the ranger. In fact, the bear's visits to the vicinity of his cabin helped to relieve the monotony of loneliness. Frequently the bear followed him on his shorter trips and busied himself picking huckleberries or hunting for ants' nests in decayed logs while Brown was at work.

One morning Brown was working on the telephone line, and his friend the bear had followed him out on the trail. Brown had put on his climbers and was high up on an old cedar snag when he noticed the bear sniffing and scratching about the base of the dead tree in which he was working. The bear had smelled honey and had located the bees quite close to the ground in the hollow trunk. It didn't take the bear long to break into the storage chamber, nor did it take the aroused bees long to find Charlie clinging to the trunk some twenty feet above the ground. Apparently the combined attack of the bees was having its effect upon the bear, for the big animal was growling and slapping at the bees while gobbling up the sticky comb.

It soon became evident to Brown that he was going to have to get down or be stung to death, while the actions of the bear convinced him that the ground was not much safer than the tree. His exciting escape from the predicament makes a thrilling climax to this bear story, which has an advantage over the others because of the complications furnished by the bees.



A full-grown black bear weighs three hundred to four hundred pounds

Between the Bee and the Big Black Bear

By N. N. Dodge
Washington



The permanent National Park Service force at Mount Rainier. District Ranger Brown is third from the right in the front row

WHEREVER bears are plentiful, beekeepers may expect interesting if not pleasant experiences, for Bruin's taste for honey is bound to lead him to the apiary sooner or later. However, it is not often that men become involved in these bear versus bee episodes when the honey is stored in one of Nature's depositories—a bee tree.

Mr. Charles Brown, district ranger in Mount Rainier National Park, has a repertory of bear stories that will furnish an evening of first-class entertainment to any person who is

fortunate enough to find this interesting out-of-door man in a reminiscent mood. Brown has been in the National Park Service for many years, and during that time has had many experiences with bears.

National Park bears are not tame, but because of the protection afforded them, and because of the fact that many visitors feed them or deposit scraps of food in garbage cans where the bears can get them easily, these big beasts become very bold. Although a source of interest to visitors, bears become a nuisance about

Organization Among Beekeepers

By H. F. Wilson
Wisconsin

THE American Honey Producers' League came into existence in 1920 presumably as a new national association, but in reality it was only the old national under a new name. A national beekeepers' association has been in existence since 1870, under several different titles. Now it is proposed to again reorganize the association and again change the name.

Before attempting to rebuild the association, it would seem desirable to try and analyze beekeeping conditions and the various factors involved in building local, state and national organizations.

Beekeeping, although widespread throughout the United States and Canada, is a minor agricultural industry, with a product perhaps older than any other food produced for sale at the present time, yet without any established superiority that would make it a so-called necessity, such as milk, butter, eggs, sugar and meat. Honey is fairly well established in the minds of the people, but unfortunately it falls in the same line with jellies and preserves, although occasionally a family may consider it a desired sweet and use it continuously.

Honey also probably requires as much individual effort to sell as the great majority of non-staple food products, and therefore continued publicity is necessary to bring about continued maximum sales. Also the one factor which interferes with successful sales of honey is the variation in color and flavor, along with poor methods of preparing the product for market.

The temperament of the majority of people engaged in the beekeeping industry is a hindrance to the success of stabilized distribution and marketing. The nature of the product itself contributes toward difficulties in stabilized distribution and marketing because of the ease with which the producer can hold it over for a considerable period of time. Milk, butter, eggs and meat are perishable, and the producer cannot hold them, as a certain amount of special equipment and methods of handling are necessary to prevent spoiling almost immediately.

The equipment necessary for producing honey is comparatively simple and no great amount of capital is required in starting with the business. Honey is taken from its natural source as nectar and converted into the finished product by the bees, thereby producing a complete machine which turns out the product regardless of the efficiency or de-

ficiencies of the beekeeper. The deficiencies of the beekeeper relate only to the building of colonies and the amount of the product that the bees can store and ripen. The greatest deficiency lies in the marketing of the crop, which, after all, is the factor that causes most of the difficulty. However, there seems to be no immediate method by which this condition can be corrected. The drastic legislation which would be necessary to improve the situation for our commercial beekeepers would probably not be held constitutional.

The difficulties of marketing which face the beekeeping industry today existed three-fourths of a century before, and during that time there has been little or no change in the methods followed by a majority of the beekeepers. The honey is produced and marketed in all sorts of containers and under all sorts of conditions. The flavor and the color vary more or less, even within the same year, and it is difficult for the public to secure continuously a uniform product.

The organization of beekeepers into marketing groups seems to be about as far away now as it was fifty years ago. It is reported that there are 800,000 people in America who are keeping from one to many colonies of bees. The basic product, nectar, from plants, costs nothing. The bees therefore are producing a finished product which costs little or nothing to manufacture, except for the labor involved in manipulating the bees and preparing the crop for market. The cost of the initial equipment has in the past been quickly returned to the beekeeper, and only now is he facing selling prices which make it necessary that he consider the labor involved in producing the crop.

Selling costs continue relatively higher because the beekeeper must buy his containers and labels in small quantities, which naturally makes the relative price high. Honey is similar in every way to many farm crops in that it can be sold directly to the consumer and is what we call a "cash product." This very fact makes it extremely difficult to develop any organization that will be able properly to distribute and market honey, because honey can be produced in practically every farming section, and when there is a large crop throughout the United States every section, except in the large cities, is quickly glutted with honey from local beekeepers, which makes it impossible for a national selling organiza-

tion to sell locally. At the same time, many beekeepers who have a large surplus crop move their honey into the larger centers, where it is taken over by jobbers and wholesalers at prices governed entirely by supply and demand. Therefore, if many beekeepers throw large quantities into the market at the same time, the supply almost immediately is greater than the demand, and low prices result. With this sort of a condition, the beekeepers are almost completely at the mercy of the large buyers and are forced to accept whatever price they can get. Small beekeepers competing in their own localities force local prices downward and larger beekeepers in the same locality are forced to send their crops to the larger markets. As a result almost complete demoralization follows every time we have one or more large crops throughout the country.

Farmers have time and again been induced to join associations of various sorts with the expectation that they would secure an immediate beneficial result. Because conditions develop over which the association has no control, the members do not gain what they had expected to gain, and as a result become quickly dissatisfied and believe that they have received no benefit from membership in the association.

Exactly the same condition holds true in our beekeeping associations. The great majority of the beekeepers in America are keeping bees as a sideline. They do not obtain large returns from beekeeping. They are not dependent upon beekeeping for a livelihood and are therefore reluctant to pay membership dues to the association whose meetings they may not be able to attend and the programs of which are on subjects which do not appeal to them.

In my opinion, the most important indicator in what may be expected of those engaged in beekeeping is shown in the number of beekeepers who subscribe to bee journals. I do not know how many people subscribe for bee journals in the United States and Canada, but I doubt very much if it is more than forty thousand. So that, out of 800,000 beekeepers in the United States, we have a possible chance of reaching approximately 5 per cent. I believe that it would be safe to say that not more than one-half of these 40,000 beekeepers belong to any kind of a beekeepers' association, and I doubt very much if there are 8,000 beekeepers in the United States who belong to any kind

of a state organization. Therefore, the approximate number of beekeepers that we may have any appeal to is in the neighborhood of 8,000. Of this 8,000 a very high percentage are people who are keeping bees as a vocation and are only occasionally interested in the work of any association.

The commercial beekeepers are to some extent interested in the association work, but since the information given out at the association meetings is usually of an elementary nature they do not consider it worth while to spend their time attending such meetings, and become interested only when some marketing program is suggested.

Another group is the farm beekeepers, whose interest lies principally with town boards, school boards, churches, farm board and other national farmers' organizations. Many of this group have acquired the habit of subscribing for various farm journals which may include a bee journal, but they are entirely too busy attending other meetings and conventions to ever attend a beekeepers' meeting. Therefore, they are not interested in any beekeepers' association.

Relative to the marketing organizations, many of us have seen them started, thrive for a while, and then disappear. One marketing organization that we all know—the Colorado Honey Producers' Association—has thrived for many years, but it did so because there was one man with great business instinct who gave his entire life to maintain that association, and I know from personal talks with Mr. Frank Rauchfuss that he never felt safe from a possible breakdown of the association because of the efforts made by individuals to disrupt the association with the hope that they might gain the position which he held. I do not believe that there is any question but that if Mr. Rauchfuss had applied his business ability to a business of greater magnitude he would have been able to have accumulated great wealth and built up a great business in some other line.

Every state and local association that I have any knowledge of has passed through many periods of reorganization, and their success has been almost entirely due to the efforts of two or three individuals who unselfishly devoted their time and energy and sometimes personal funds to keep up the association. Whenever it has been possible for individuals to go about among the beekeepers and pay them personal visits, or where it has been possible for a representative paid by the state to hold meetings and organize the beekeepers, successful organizations have

existed. In some cases the organizations have been subsidized by state funds, but even with state funds to maintain the organizations they have not thrived to the extent that they might if the interest of the beekeepers could be aroused.

There have been times when beekeepers throughout the United States have awakened to a new interest in beekeeping because of some threat which had developed against the beekeeping industry. I have not gone back through records outside of the bee journals and am therefore not in a position to discuss what may have happened elsewhere, but in the early history of the national beekeepers' association one can find resolutions condemning the practice of adulterating honey with glucose, and I have no doubt but that the efforts of our beekeepers and their organizations had a great deal to do with the development of the national pure food laws.

In 1885 the National Beekeepers' Union was organized to fight for the rights of beekeepers, particularly with regard to protection from city ordinances which would prevent bees from being maintained in cities and villages, and lawsuits brought by individuals for the recovery of imaginary damages resulting in most cases from personal enmities. During its time the National Beekeepers' Union was probably the most important organization of beekeepers, because it was able to produce tangible results, but there came a time when there were few or no cases to fight and the Union passed out of existence.

No greater fight could have been made by any group of people than the recent fight made by the beekeepers against the corn sugar bills. From what I know of the situation, I am positive that the beekeepers prevented the passage of such legislation and made a great achievement in this battle. But, unfortunately, again forces over which they had little or no control entered to nullify the victory which they had gained, and the corn sugar interests have gained a partial victory. But so far they have not gained all that they were after and it is entirely possible that, with a new secretary of agriculture, if the beekeepers of America felt inclined to do so, they might completely nullify the special privileges given to the corn sugar interests.

After having made a cursory study of the development of beekeeping organizations in America, I am of the opinion that all general organizations among beekeepers should limit their activities to educational and developmental lines, being prepared always to work for beneficial

legislation and to oppose legislation or enactments that might be detrimental to the beekeeping industry as a whole. It is perfectly reasonable for these associations to encourage research and education for the betterment of the beekeeping industry, and even foster cooperative marketing without becoming financially involved.

It also seems to me reasonable that the association might endeavor to arbitrate any misunderstandings which may develop within the beekeeping fraternity itself and relating perhaps to quarantine and inspection laws or grading regulations.

The national association will have a revised constitution and possibly a new name after the next convention. In order that the program for this association can be developed on a sound and workable basis, every interested person should go through the bee journals and study the history of the association from the beginning.

Backgrounds

Life is a picture painted by Time on the canvas of Eternity. The picture without shadows is trite, uninteresting. It has no soul, no atmosphere. It is a travesty on true art. The life without its dark moments, even its tragedies, is commonplace, unlovely, bald.

It is therefore unwise to resent the shadows. It is, however, unwholesome to dwell upon them to a degree not warranted by their importance in your life picture. The great Artist uses these somber backgrounds to throw into glorious prominence the whiteness and brightness of human personality and character.

Treat the backgrounds with respect, but the foregrounds with reverence and love.

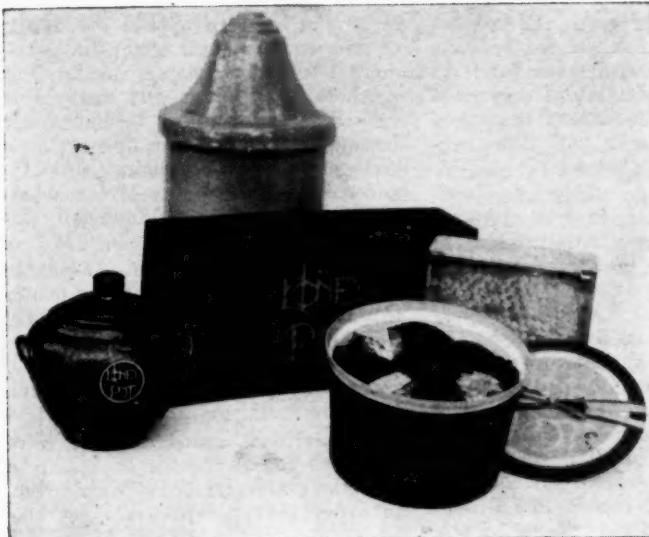
Lida Keck-Wiggins.

"Duco" for Labels

We have tried almost everything we could think of, including wall paper paste, as the editor recommends, to make labels stick to tin. Last Christmas when our folks were making ornaments for Christmas, they were pasting some on oilcloth and they were sticking on good, so I tried the material they were using on labels on honey pails and it worked. The material is "Duco Household Cement," put up in tubes and sold by most stores.

I put this cement only on the ends of the labels and it will paste 200 to 400 per tube. Anyone having any difficulty in getting this to stick labels on, if they will send me a postal card, I will come and put them on for them.

Herman Zirbel, Iowa.



Above, an assortment of candies from the Honey Pot

The author, in her workroom, glorifies a home industry

WITHIN recent years much thought and study have been given to the balanced diet of the family, including the problems of food preparation as well as the food properties essential for a healthy body. Although it is important that this study should include the needs of all ages, it is especially important when considering the well-being of children.

With this thought in mind and with the knowledge that my own children, as well as others, are especially fond of sweets, I began the making of honey candy. My ideal was to create a candy which was appetizing and harmless, but I wanted more than this—I wanted a "food candy." Toward this objective I have experimented for the past ten years.

The recipes which I have worked out include only the highest grade materials, and I always observe the 100 per cent honey sweetening. I am constantly changing my formulas and methods of manipulation with the thought in mind of obtaining the combinations of flavors and textures which will please the critical epicure and the dyspeptic sufferer and at the same time of having a wholesome confection for children.

Candied honey, put up in artistic pottery jars, forms a natural secondary line to my candy, all of which now bears my registered label, "The Honey Pot."

My workshop is in the little village of Alfred, New York, the home of Alfred University. Many of my sales are made to the college students, yet a surprising amount of candy, in hand-decorated boxes, goes to the

townspeople and to those who motor here from other places.

In this period of depression and of consequent stinting, my sales have not registered a slump in proportion to what might have been expected. I believe that two of the reasons for this are, first, that the need for just such an article as I am producing has been felt by many people for a long time, and, second, that a gift which combines both the artistic and the practical elements is appreciated by a growing number of people.

Add Sulphuric Acid SLOWLY

I would suggest to W. E. Becker that it is quite safe to add sulphuric acid slowly to a larger quantity of water. It is when water is added to sulphuric acid that there is heat and trouble. A. William Bowman, Saskatchewan.

Honey Candy Develops Into a Business

By Olive Sherman Watson
New York

The Institute tells us there are thirty-five candy makers using honey. Here Mrs. Watson, wife of the same Doctor Watson who perfected instrumental mating, tells us about her candies. If the other thirty-four make candies like hers our liquid honey will soon be used up for this purpose alone.



Date Nut Pudding

$\frac{1}{2}$ cup chopped nuts
1 tsp. lemon juice
6 tbsp. graham or whole wheat flour
1 cup chopped dates
2 to 3 tbsp. honey or brown sugar
1 pint water.

Mix in order given, except the nuts and flavor. Boil till it thickens, stir constantly. Add the nuts after you have taken it from the stove and it has cooled slightly; then also add the lemon juice.

Can be served with whipped cream. It is better to make it several hours before serving, as it tastes much better after it stands a while. Adding two tablespoons of Pecano or grated pecan nuts gives it a much nicer flavor.

The Value of the Odor Test in Apairy Inspection

By R. E. Foster
Florida State Apairy Inspector

In apairy inspection work, cases are occasionally encountered in which the symptoms of the different brood diseases overlap to such an extent that definite diagnosis in the apairy is difficult or impossible. While engaged in apairy inspection in Florida, I have encountered many such confusing cases and have long recognized the need for additional tests when a diagnosis cannot be made from the usual observations. I was particularly interested, therefore in an article by Dr. C. E. Burnside, assistant apiculturist, Bureau of Entomology, United States Department of Agriculture, describing a method of distinguishing the different brood diseases by the odors of the individual brood remains. (A. B. J., December, 1920, pp. 574-575.)

During the past two years I have studied the odors of dead brood as suggested by Burnside with gratifying results. Whenever a colony infected with a brood disease was found, brood remains in different stages of decay were held close to the entrance of the nostril on a match or toothpick until the odor was detected. After comparatively little experience, the odors were familiarized so that it was possible in most cases to determine which disease was present by the odor of a single decayed larva. In general, my observations on the odors of American and European foulbrood compare with those of Burnside.

In larvæ recently dead of American foulbrood no characteristic odor was detected. In partially decayed remains which are light brown in color an odor is present which resembles that of freshly ground corn. When the remains have become brown and ropy, the familiar "glue pot" odor is present, and this odor remains until the scales are thoroughly dry.

The writer has never been able to detect a characteristic odor of European foulbrood in combs or recently dead brood. Also in this disease little or no odor is present in coiled remains which dry down to light colored scales in open cells. A penetrating putrid odor is always present, however, in larvæ that die of European foulbrood in sealed cells and develop color and ropiness scarcely distinguishable from these symptoms in American foulbrood.

In sacbrood remains little or no odor is present at any time, although occasionally a faint, sour odor can be detected in partially decayed larvæ. Since the symptoms of sacbrood are usually well defined, brood

dead of this disease is not likely to be confused with brood dead of the bacterial diseases.

During the past year it has been discovered that another brood disease (parafoulbrood) exists in limited sections of Florida, Georgia and North and South Carolina. In many respects the symptoms of this disease resemble those of European foulbrood, but in advanced cases brown and ropy remains are always present which cannot always be distinguished by the usual observations from the remains of American foulbrood. The odor of such remains is intense, penetrating, and putrid, and although it resembles the putrid odor present in European foulbrood it is usually much more intense. To detect the odor of European foulbrood, it is necessary to hold a decayed larva close to the nostril, but in parafoulbrood the odor of a single larva can frequently be detected as soon as it is removed from the comb.

During the spring of 1932, the writer, in cooperation with C. E. Burnside and A. B. Hamlin, state apairy inspector of Georgia, investigated a serious brood disorder in western Florida, which was found to be caused by a poisonous substance in the freshly gathered honey. The gross symptoms of this condition were variable and many of the individual brood remains resembled the remains of one or another of the brood diseases. It was found, however, that when the symptoms overlapped a distinction could usually be made from the odor of the dead larvæ. In early cases the dead brood usually did not decay, but developed a characteristic sour odor soon after death. In advanced cases, secondary bacteria, apparently of several different species, were abundant and the dead brood decayed rapidly. Several different putrid odors were detected in the decayed remains, but usually none of these bore more than a slight resemblance to odors present in the brood diseases.

After using the odor test for two years, I have found it to be of considerable value in my apairy inspection work. When the other symptoms overlap, or when only an occasional dead larva is present, the use of this test frequently makes a definite diagnosis in the apairy possible when otherwise a laboratory examination would be required. When a laboratory examination is necessary, determination of the odor of brood remains makes it possible to select samples to better advantage. The odor test also aids in field diagnosis

when slight infection with American foulbrood is present in advanced cases of European foulbrood, parafoulbrood or any other brood disorder in which some of the dead larvæ resemble the remains of American foulbrood.

How to Keep Happy

A Michigan beekeeper, being in need of some chicken feed, traded a 60-pound can of his best white honey to a farmer for eight bushels of No. 1 wheat. At prevailing market prices when the deal was made, the farmer got \$1.20 more than his wheat was worth and the beekeeper got \$1.00 more than his honey was worth in quantity lots. The wheat was figured at 50 cents per bushel, or \$4.00, and the 60-pound can of honey at \$4.00 per can. As a result both were happy and considered they had made a good deal.

There is another angle to this. It is quite evident that the beekeeper is in a more favored position than the wheat farmer. This beekeeper started the spring of 1932 with 355 swarms of bees, which he rented to fruit growers for \$2.00 per colony, the growers trucking the bees to and from the orchards. Thus he started the season with \$710.00 in cash returns. His 1932 honey crop was 45,000 pounds and he increased to 500 colonies, all with abundant stores for winter without feeding.

Our local farm bureau gives the average yield of wheat in Michigan at slightly less than twenty bushels per acre. Figuring a 60-pound can to eight bushels of wheat as a value basis, the farmer would have to have 300 acres of wheat to produce 6,000 bushels to be equivalent to 45,000 pounds of honey. You can draw your own conclusions about which you would prefer to produce.

Well do I remember my father making the statement years ago that he would rather have 100 colonies of bees than he would to have a 60-acre farm for general farm crops, that he could make more clear money out of the bees. This statement seems to be well substantiated even at this time.

A. G. Woodman, Michigan.

Nevada Report

We have before us the report of the State Apairy Commission for the State of Nevada for the period January 1, 1931, to June 30, 1932.

This shows practically a total inspection of all bees in the state, with a percentage of disease amounting to 1 per cent in 1932.

A similar report for the 1931 season was a 2 per cent infection, so that there has been a considerable reduction during the year.

Old Combs or New?

By Herman Ahlers
Oregon

WE beekeepers are told that henceforth we must cut down expenses in the bee yard, but I have listened in vain for suggestions how that can be done without expending money in the first place. Men who follow beekeeping on a large scale—those who run thousands of colonies—have solved that problem more or less for themselves, but the beekeeper who is working a moderate number of colonies, say a hundred or two, must look elsewhere than to a costly first-class equipment. I believe the only salvation for him is to use better methods while producing a crop of honey; he must use every little scheme which will further that one object. In the following I offer a little trick which will help, but first I will show how—in the belief of saving—we are not often enough looking to the balancing gain.

Bees are reluctant to enter combs which have been in storage for a year without being used, or, as it happened with me, combs filled with water, caused by covers blown off during winter. Who has not observed that such combs are torn down by the bees and cells built on the old foundation? There is loss, perhaps, at the time of a short but heavy flow—a flow which would have produced a surplus if new combs had been given to the bees. Would it not have been better to melt those damaged, perhaps moldy, combs and to have furnished new ones for old? I know beekeepers will say foundation costs money in the first place and time is lost to have it drawn out, which, to their understanding, must be done during a honeyflow.

I believe this is a time when the wrong kind of economy enters the case. The wax secured by melting those old combs would have paid for new foundation. If the frames containing them had been dipped in boiling water, the wires would have remained; all they needed would be a little tightening to make them fit for service again.

Here is a warning: Do not apply this advice to combs having had foul-brood in them—burn and be done. It must be remembered that foul-brood spores can stand a lot of cooking; even a second boiling with lye is not enough. Burn!

Our best minds work on schemes to save such foulbroody combs, and beekeepers follow their advice. They dip and treat with this, that and the other thing in spite of the messiness of the job. Why? To have combs when a flow of nectar is at hand.

They all think that foundation can only be drawn out successfully during a honeyflow. Right here I differ with them. I have foundation drawn out during a time when little or no nectar is coming in.

Here in the northwest corner of Oregon, where the water-white flow from fireweed opens the first of July, and the preceding month of June is the poor one—throughout spring and summer—I select June for building combs. I am sure that similar conditions can be found elsewhere. Eastern Oregon beekeepers depend on alfalfa. Just before that flow little nectar is gathered, and this is the time for building combs. The time between fruit bloom and white clover will serve in some localities. In northern California, I used a month or so before star thistle bloomed. The cool north woods or the hot, blistering sun of the South, if tempered by ventilation and shade boards, are all good for our purpose—to draw out foundation and build combs.

I suppose there are other beekeepers doing what I do—I don't know; but if men who run all the way up to five hundred colonies are unaware that foundation can be drawn out during a non-flow of nectar, then I may take it as proof that this knowledge is not universal.

No doubt there will be some beekeepers who will make a failure of this scheme of mine, but to me it is simple—fool-proof if attention is paid—drawn combs promptly removed and foundation supplied in time. There are no chores such as handling single frames; all the work is done with deep bodies. It is work during slack time, but which will increase the crop when the right kind of nectar is there.

The usual method of inserting a frame with foundation between two combs of brood, or a super filled with foundation over a strong colony during a honeyflow, has served its time, but both are slow, the first one pidling and the second uneconomical.

We all know that a comb built on foundation in the brood nest has the serious fault of not being fastened to the bottom bar, reducing thereby the capacity half an inch deep by sixteen and a quarter inches wide. This fault is also the cause that such a comb may break from the hard usage it receives in the extractor.

We also know when a body with foundation is set above the brood nest during the start of a honeyflow time is lost while bees are kept home building comb when they ought to

be out in the field gathering nectar, or, in a slow flow, the brood nest is filled with honey, thereby prematurely choking the capacity of the queen.

It may be said that the faults enumerated are so insignificant that they do not count; but they do. In the matter of foundation, in one frame drawn out in the brood nest the loss is not great, but if multiplied by ten or a hundred or a thousand, then such loss counts. Many little faults are in the aggregate big and may be costly, and beekeeping is essentially a business in which small things count.

Foundation in deep frames can be drawn out in four to six days, depending on the strength of the colony, and not a drop of honey in any of the new cells to be soured by the time the real flow is on, or to discolor any otherwise white honey. Yes, it can be done provided the conditions are right, and lucky it is that those conditions are very much under the control of the beekeeper—to have them just so.

The right colony to draw out foundation is one which has brood clear to the sides of the hive—in a word, it is one fit to produce section honey. If not full of brood, then foundation above those empty spaces will be neglected. On such a crowded brood chamber is set the one body having a full set of frames filled with foundation. On this goes a body having some brood and plenty of honey—preferably sealed. I like to have here all drone brood, because then there is no need to look for queen-cells. However, any brood will do. It is an advantage to have this honey and brood in a shallow super, as less bees are required to cover the brood, and such a light body is easy to lift off and on. Someone may ask: "Why brood and honey?" The answer is: "Brood will draw the bees out of the brood nest into the foundation, and the honey is a needed reserve during a time of scant or no honeyflow."

Four or five days later I take off the reserve chamber and look. If the colony has been strong enough, all foundation is drawn out and cells are all the way from a mere trace in the corners of outside frames to nearly full length in the central ones. If no excess honey has come from the outside, the cells are empty. If the work is satisfactory, I take this body off and store until needed and replace with one having a new set of foundation. If not satisfactory, I return until the foundation is

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drawn out. Thus the work goes on. Of course, the reserve body is put over the foundation again. Simple? Yes! What a joy it is to me to see those new, clean combs; to be able to furnish them when the flow of surplus honey begins!

Any man may be a dairyman and not be over fond of milking; any

man may grow grain and do it only for the money there is in it. But no man is a beekeeper unless he is an enthusiast, and therein lays the salvage of the business; therein is the hope that we will go on increasing our knowledge and be benefited thereby — in spite of low honey prices.



"Merry Christmas"

Merry Christmas, Merry Christmas!
Could one ever find
Greeting half so truly cheering
To the heart and mind?
Merry Christmas, Merry Christmas!
What sweet thoughts are born
When one hears that new-old greeting
On the Christmas morn!

Merry Christmas, and God bless you
In the sacred name
Of the Babe, foretold of prophets,
Who to this earth came
That its God might understand it
And more truly be
Just a dear and loving Father
Unto you and me.

Merry Christmas! Say it, sing it,
Till the dear day's end,
Let its spirit sweet accompany
Every gift you send!
Then will Christmas, fine old Christmas
Bring you love gifts great,
Since Christ's birthday with true reverence
Thus you celebrate!

Lida Keck-Wiggins.

AND again — "Merry Christmas." Somebody back there in the audience is looking rather glum and whispering "It MAY be merry for you, Honey Lady, but how about me? I'm as poor as Job's turkey and I don't feel merry at all." No? Well, I'm sorry, but I'm going to suggest something to you. You're alive, aren't you? Yes, I think so. A ghost couldn't have put up such a lusty protest as you've just done. Well, can you in your wildest moments think of anything greater to possess than life? Where did your life come from? If you believe the Good Book (and who doesn't if truly honest with himself), you'll admit that the way Adam became a living soul was for God to breathe into his nostrils the breath of life. That was a rather nice gift to a lump of clay, don't you think? It is still, for even though this clay or lay figure of yours and mine IS pretty wonderful, taken as a machine; it wouldn't amount to a single thing were it not for that life,

that power, flowing through it—that is, not as a human body; it might have some value as fertilizer for grass and other things, of course.

Well, then, if you haven't anything else to be thankful or merry about at Christmas, just be a little grateful to God for life. Then read the Christmas story again and see what the angels said when they were announcing to those astounded hillside shepherds about the coming of Christ. Did they spread any gloom? They did not! Were the shepherds millionaires? They were not! Mighty poor, I'm thinking, in this world's goods, since they stayed out all night on bleak hillsides guarding sheep! Yet to them came the choir from Heaven itself. And what was the message they brought? Now read it over with me, my disconsolate friend, and see if it doesn't warm the cockles of your heart: "Fear not; for behold I bring you good tidings of great joy, which shall be to all people. For unto you is born this day in the city of David a Saviour which is Christ the Lord, and this shall be a sign unto you: Ye shall find the babe wrapped in swaddling clothes, lying in a manger. And suddenly there was with the angel a multitude of the heavenly host praising God and saying Glory to God in the highest, and on earth peace, good will to men!"

Now, is anybody quite as blue as before? God Almighty didn't send His son to a palace, or even to a rich or prosperous home. He sent Him to a poor carpenter and his wife, and He suffered Him to be born in a stable, out among the cattle and the lowliest creatures of the earth. Why? Just because He knew folks would sometimes get downhearted and feel-

ing poor, and because He knew that at such times this Christmas story would make them happy again in the suddenly relearned knowledge that he who receives again at Christmas the gift of God's love in the person of the spirit of the Christ Child can never feel sad or poor again. And so, asking everybody's pardon for turning parson for the moment, Honey Lady says again, and with AUTHORITY, "Merry Christmas, one and all!"

— o —

Now, Honey Lady thought as Christmas always brings the desire to give gifts, and as an individual gift one containing something of one's self is always most appreciated, she thought the young readers of Blue Kitchen would like a few Honey recipes to be made up into confections for Christmas gifts to friends in cities, or who don't have any bees.

How does this sound, children? A helpful, wise lady by the name of Miss Harriet Dewey, Grand Junction, Colorado, "thought" these up. They are fine! Honey Lady knows from Blue Kitchen experimenting:

Peanut Chews

1 pint strained honey
1 pound roasted peanuts

Boil honey until a bit forms in a soft ball when dropped into cold water; stir in the peanuts (which should be ground beforehand with the finest knife in the food chopper). When cool enough to handle, mold into the size and shape of peanuts. Any nut may be substituted for the peanut, or fresh cocoanut put through the food chopper. If you do use the cocoanut, however, be sure that it is not sour.

Now, you farm boys and girls especially, get down out of the loft or elsewhere some of those black walnuts or hickory nuts you had so much fun gathering this autumn, and use those with the honey! It's a certain thing you'll have some "dandy candy" for Christmas gifts. If you HAVE any money to spend at all, you can get lovely Christmas boxes at the five-and-ten, or you can get cellophane in sheets and make pretty packages. This goes also, of course, for Smothered Dates, which you can make as follows:

½ pint strained honey
½ pound dates (seeded)
1 egg white (beaten stiff)
Cocoanut

Directions: Boil honey until a bit snaps when dropped into cold water. Pour this into the stiffly beaten egg white and beat about one minute. Roll dates in this, then roll in the cocoanut. Either shredded cocoanut or fresh cocoanut put through the food chopper may be used.

(Please turn to page 489)



Below, Harry Heath looks over a big colony. At left, supers loaded to go, on a nice, even truck bed. In center, one of Harry Heath's yards, just as they look in California.

How Harry Heath Sells Direct to the Consumer

By J. Edward Tuff
Colorado

HARRY HEATH, of Long Beach, California, who operates no less than fourteen hundred colonies of bees each season, has built up a direct-to-consumer business taking care of his entire production. Unique publicity methods extending over a period of seven or eight years have enabled Mr. Heath to build his retail clientele.

First might be mentioned his lectures and exhibits. He has a screen cage about three and a half feet square in which he stands when he lectures. He enters the cage through a trap door at the bottom and then when inside releases an entire hive of bees. He dresses in a gymnasium suit with bare arms and legs. Down at the big open market in Long Beach, where he maintains a sales booth, he often gives his lecture from his bee cage. He has on occasion spoken to various groups as they congregated for eleven hours in one stretch with the friendly bees clustered on his face, arms and legs.

Mr. Heath also attends various conventions, fairs, expositions and other gatherings. He has given lectures in his cage at the Riverside County Fair, the Los Angeles County Fair, food shows by the dozen, and other gatherings. When introducing his product he gave exhibitions several times daily for thirty-four weeks on the Silver Spring peer at Long Beach. He literally talked to hundreds of thousands of people during that period.

Has Series of Talks

Mr. Heath has a series of subjects, all promotive of honey consumption. He is apt to begin a series with a talk on the romance of the honey-bee, going into interesting and romantic details of the bee's life. He

follows this with a series of health talks, insisting always that honey is the one natural sweet for human consumption—a sweet presented for consumption without any factory processes involved. He urges a wider use of honey, such as its use on fruit, breakfast food, etc., in place of sugar, and he states he has made converts by the hundreds.

"When I am lecturing to a crowd any place," says Mr. Heath, "I try to watch the mood. If they become restless when I am talking on the romance of the bee, I slip over immediately to a health talk; and if they seem restless under a health talk, I ring in a bit of psychology. There always is a way to keep a crowd interested; the main point is not to tire the people out with a talk in which they are not interested.

"I have always sold enough honey any place I have gone to pay the costs, my main object being not to make money then and there, but to make honey users and to inspire confidence in myself and my product. The gradual, and in good times the rapid, growth of my business shows me that the plan has worked. I have covered the territory for one hundred miles in all directions, demonstrations usually beginning in earnest in the fall, September 15 perhaps, and continuing until about March 1. Sometimes I describe in detail the methods of sugar manufacture in factories and contrast with that the simple methods of honey manufacture."

A Wayside Stand

Mr. Heath also has a wayside stand on wheels. This is ingeniously built so that it opens up, making a comfortable little store. In selling from this, whether he is selling himself or has an employee in charge, a mass

display in the various sizes of containers is necessary to success, he finds. People must know that a man is a real producer and that he understands his stuff, he states.

Unique Printed Talks

Mr. Heath, at his booth in the market in Long Beach, hands out to his customers typewritten talks in series. A series of four, each covering two pages, recently used had good effect, he feels. These were designated as "Heath's Health-o-Grams." In Health-o-Gram No. 1 he discussed the value of phosphorus in the human system and named a number of good foods containing it. He did not touch on honey until the last two paragraphs.

Health-o-Gram No. 2 dealt with psychology. He stressed the value of good thinking as a health giver and then wound up by talking about his orange blossom honey. In this article he described in minute detail the method of manufacturing beet sugar.

Health-o-Gram No. 3 dealt quite largely with the subject of iron in the human system—how to get it. The major portion of the article, however, dealt with the methods of manufacturing honey. The romance of the bee is worked into this story in fine shape.

Health-o-Gram No. 4 talks about carbon foods, but ends up with a discussion of the value of honey in the diet.

Every one of these typewritten talks, however, is filled with bits of human philosophy. They are not cold, stale, talks, but are vibrant with life. Thousands of these were distributed, and each year a new series is handed out.

Heath's Honey House

Another method of publicity is Heath's Honey House. This is a small store built in front of his residence at 2425 Atlantic Avenue, Long Beach. This little house is like a great glassed-in cage, and since it is located on one of the busiest thoroughfares in southern California, is seen by thousands. Mass display here also is an important feature and at night illumination within the house shines through the glass jars of honey, revealing the different shades of the different kinds. This house is rapidly developing its own boulevard trade and getting customers from neighboring cities.

Heath's Program

Mr. Heath goes into the orange groves with his bees about March 15. He has certain areas where there is some fog at night, but not too much. At the end of thirty days he moves to the black sage. His next move is to the purple sage and then to cotton and alfalfa fields. His last move is to the buckwheat and white sage fields. In his orange blossom colonies he likes one hundred thousand bees to the hive. The practical bees, he thinks, are hybrids, Carniolan mixed with Italian.

A Pint Starts Them

A new customer usually is urged to take a pint jar. That is sufficient to start him, Mr. Heath finds, and the second purchase should be a five-pound pail. When that pail is used up, he finds, the customer has developed a honey taste and becomes an habitual user of the product.

"It has taken years to build up this direct-to-customer clientele," says Mr. Heath, "but now that it is done I am able every year to realize a fair profit and would not change my job for that of President Hoover."

Orange Cake

Bake the plain cake in rather thick layers. Between these use a filling made of custard after this recipe:

1 quart scalded milk
4 to 6 eggs
 $\frac{3}{4}$ cup honey
 $\frac{1}{4}$ teaspoonful salt

Beat the eggs slightly, stir in the honey, then slowly the hot milk. Add a dash of nutmeg. Flavor this custard with orange juice and rind.

Cover the top layer with orange frosting made as follows: Grate the rind of a yellow orange. Squeeze two or three tablespoonfuls of juice over it. Let stand for an hour or more. Strain and mix the juice with one cup of powdered sugar or enough to keep its shape when spread on the cake. The yolk of an egg may be added to supply lack of color in the orange.

Does This Beat Your Well, Mr. Pellett?



In your July number, the item "How Well Do Bees Do in a Well?" calls for this picture. Our Canadian bees used better judgment in selecting the double flue chimney. They spent last winter in that chimney. The only complaint was the two dollars' worth of coal burned in the fireplace.

Apparently this double flue chimney was built for appearance, since only the open flue was of any use. The other was closed by being filled with concrete supported on a board just below the concrete rim. The bees found a defective joint in the bricks dividing the two flues. I happened to mention bees to Mr. Harold Court, who resides two miles out, and his complaint was that bees continued to visit his drawing-room all summer and winter.

I volunteered to exterminate them, and did so by breaking a hole into the blank compartment. I smoked as many of the bees out as possible, then put in Cyanogen and closed the hole and the open flue.

The next morning the drawing-room floor was covered with dead bees. To salvage the colony or secure the honey would have meant destroying the chimney. Their selection of a place to winter undoubtedly showed great intelligence. Or were they from Alabama and had heard of the rigors of the Canadian winters? Of course it must be admitted that the

Iowans, being pioneers, did not make a bad selection from the standpoint of hurricanes and tornadoes.

Charles E. Phillips,
Ontario, Canada.

Are There Bee Scouts?

My opinion is affirmative. A neighbor of mine, while trying to hive a swarm clustered on a tree out in the country many days ago, saw a few bees come near the cluster and hover around it as if wanting to inform their quiet family members of something new. Soon the cluster became uneasy and all the bees of the swarm taking wing began to fly toward a definite direction despite the hunter's efforts to stop their march.

Near my village are some great and precipitous (perpendicular) rocks where a considerable number of bee families have their abodes. The villagers, unable to reach these bee homes, are waiting for spring to catch every swarm as soon as it lands on the nearby trees (the rocks are 400 meters high). At a distance of about two hundred yards was located a small yard of another neighbor, consisting of about five colonies of bees and a few empty, old-style beehives, or boxes. One day while a man down the rocks was waiting for a swarm to issue he saw one issue from one of these rocky bee habitations, and, instead of landing, as usual, on one of the trees nearabout, it flew directly toward the small bee yard, and to his surprise it entered one of the empty boxes.

Antonios G. Petropoulos,
Greece.

Ancestors—!

His name was Isaiah, and we had hired him to turn the extractor crank, a job that he volubly disliked. His ambition was to be a preacher.

"But if you are going to be a preacher," some one suggested, "you ought to work a few years and get local color."

"No, suh," the boy replied, "I've got plenty of color."

"Your brother works, doesn't he?" the man went on. "What is your brother doing?"

"He's married," quoth Isaiah.

"Isaiah," said the uncapper, looking hard at Isaiah's head, "I think you've got ancestors."

And Isaiah promised faithfully to use turpentine and hot water until every ancestor was annihilated.

Walter H. Hull.

Watermelon Salad

Cube hearts of watermelon, dice red apples and pears, add soaked raisins and honey.

"Gimme One, Me Sister's Got It"

How Christmas Seals Originated in the United States and What They Have Accomplished in Twenty-five Years, With a Comparison of Facilities for Discovery, Treatment and Cure Then and Now.

By A. Schaeffer, Jr.

ON December 13, 1907, a ragged, grimy boy stretched a grimy claw up to the top of the marble counter in the office of the Philadelphia North American, dropped a single penny that tinkled lonesomely, and rasped, "Gimme one, me sister's got it."

He was buying one of the first Christmas seals to be sold in the United States for the prevention of tuberculosis. The need was great. He knew; his sister had it. The sale had been arranged by Miss Emily Bissell, of Wilmington, Delaware, after reading an article in the *Outlook* magazine by Jacob Riis, famous New York Tribune newspaper reporter and social worker. In his article Mr. Riis described some stamps affixed to a letter he had received from his native land, Denmark, and explained how they were sold to provide funds to care for tuberculous children. He asked the question, "Why could not a similar procedure be adopted in the United States?"

Miss Bissell, who was actively concerned in tuberculosis work in Delaware, happened to read the article at the very time she was wondering how to obtain sufficient funds to erect some shacks on the banks of the Brandywine River for the treatment of patients. Here was her answer. She secured the enthusiastic cooperation of the Philadelphia newspaper and not only raised a sum sufficient for her purpose, but captured the fancy and won the interest of the American people with the bright little stickers she designed herself. Since then Christmas seals have been sold every year by the affiliated tuberculosis associations of the United States to carry on their work.

How great was the need for anti-tuberculosis work when that little newsboy bought his solitary Christmas seal, and what has been accomplished since then? The contrast is startling.

Tuberculosis, christened "The Captain of the Men of Death" by John Bunyan in his famous book, "Pilgrim's Progress" (1678), took an annual toll of 202 lives per 100,000 population in 1904, when the National Tuberculosis Association was organized. Today this appalling slaughter has been reduced two-thirds.

At the beginning of the century, even though a person with the disease desired to go to a sanatorium for treatment, he seldom could do

so, for in 1904 there were only 115 sanatoria in the entire United States. Since then, thanks to the intensive educational work of the tuberculosis associations, public officials have been made to realize not only the importance but the necessity of protecting the public by establishing proper centers for treatment. The result is that many cities, counties and states have built and are maintaining sanatoria for the care of their citizens, and today there are 633 institutions with special provision for tuberculosis, both public and private, throughout the country.

Since "Early Discovery means Early Recovery," it is obvious that there must be means for diagnosing the disease. Therefore, with the growth of the tuberculosis movement it is only natural that there should be a great increase in the number of clinics to which the public may go for free examination. The fact that in 1904 there were only nineteen "dispensaries" in the entire country, while today there are 3,625 modern free clinics, is in itself ample evidence of the successful efforts of the Christmas seal. Many of these clinics are now conducted by local administrations with public funds, having been taken over after the local tuberculosis association had conducted the clinic for a number of years as a demonstration to prove its need in the community. The number of lives saved by such clinics, the enormous sum in rescued man power, the suffering and misery prevented, are so vast they cannot be computed.

The preventorium was unknown in 1904. The preventorium is for underweight, undernourished and generally under-par children, most of them from tuberculous homes, whose physical condition is such that they are in danger of developing tuberculosis. Today there are 83 such retreats containing 5,000 beds, where little children may go free of charge to be built up physically so as to be better able to resist tuberculosis. Children with active tuberculosis are sent to a sanatorium for regular treatment.

Much of the credit for the establishment of the visiting nurse system is due to the world-famous Dr. William Osler, in Baltimore. In 1898 he assigned one of his medical students to visit his tuberculosis patients regularly to be sure they were obeying his instructions about preventing the spread of the disease to other

members of the family. In 1904 there were only four tuberculosis nurses in the entire United States. The latest computation shows there are 7,115 nurses doing tuberculosis work.

These activities will suffice to show the broad foundation of the battle waged by the 2,084 affiliated tuberculosis associations. The fight must continue without a break, for tuberculosis, despite the enormous strides that have been made against it, still kills more persons between the ages of 15 and 45 than any other disease. In its wake follow loss of wages, months and even years of "curing" in bed, and all too often the visitation of hardship, misery and worry on one's family.

It is the mission of Christmas seals to prevent this. You can help by buying and using them on Christmas packages, letters and cards.

A Vivid Comparison

To convince the public that honey is a more perfect health food than sugar requires more than a dogmatic statement to that effect. Fortunately the majority of people are willing to be shown. A very effective method of making a comparison between commercial sugar and honey is to take a sugar-bowl in one hand, a small jar of extracted honey in the other, and tell the listener that they are both sugar in different chemical forms. The honey is ready to be assimilated into the human body, but the sugar is not. The human body derives heat and energy from sugar, but commercial sugar has to be "inverted" before these properties are made available. The process of inversion imposes an extra burden on the digestive organs.

No such burden is imposed in the digestion of honey. Heat and energy are given without taking anything away in the process. To make the demonstration all the more impressive, attention should be called to the fact that three-fourths of the bulk of honey is "invert sugar," and that about one-fifth of the bulk of honey is water. Stated another way, 95 per cent of the bulk of honey is invert sugar and water. By placing a finger on the side of the honey jar, indicating 95 per cent of the bulk of honey in the jar, it will be seen in a graphic way that nearly all the honey is invert sugar held in solution by water. The remaining 5 per cent can be referred to the chemist.

The demonstration is impressive when the listener realizes that none of the commercial sugar can be assimilated without a chemical change, while nearly all of the honey can be assimilated without any sort of chemical change.

R. B. McCain, California.

The Junior Beekeeper

RUTH R. SMITH
Editor



Fuzzy, the Honeybee, Plays Teacher



SHE really did not mean to, but it happened this way: Fuzzy was resting on top of her home in the warm sunshine when she heard voices, wee fairy voices, above in the apple tree.

"I don't like it one bit," said one.

"Neither do I," said a second.

"To boss us round like that," grumbled the third.

Fuzzy smiled, for she knew who they were — her three friends, Twinkle, Nimble, and Blink, the fairies. Then all three talked at once, and as Fuzzy listened her smile broadened and she chuckled to herself: "The Fairy Queen has been giving them a lecture, has she?" So she began singing:

"Oh, I'm really having fun,
For my present work is done
For the babies and the other bees so
dear;
So I'll sit and stretch my wings
And I'll do some clever things
Right out here!"

Just as Fuzzy expected, there was a flutter on the leaves above her and three wee faces peeped down at her. She paid no attention, but went on singing:

"Now I'll take my little comb,
Which I never leave at home,
And my brush, which is the cutest
ever seen,
And I'll just sit here and rest
'Til my velvet suit's all pressed
And I'm clean."

There was a moment of whispering as the song ended; then with a whirl and a sweep the three fairies were down beside their friend, and as Fuzzy looked into their faces she saw, not the jolly, happy looks dear fairies always should wear, but little cross frowns and puckers. Of course she was far too wise to appear to notice this, but went on about her task. First, with her front legs she carefully brushed her head and eyes; then she smoothed her dainty velvet coat and her delicate wings.

Suddenly Twinkle spoke. "Why, how funny!" he cried. "Your front legs are regular combs, aren't they?"

Fuzzy nodded. "To be sure! Didn't you know that?"

"No," said the fairies.

"And I have a brush, too," went on the honeybee. "Can you guess where?" The fairies shook their heads.

Fuzzy stretched out first one, then the other front leg. "Look!" she commanded. The fairies looked.

"Why," cried Nimble, "why, your legs are fringed—fringed with tiny stiff hairs! What are they for?"

Fuzzy laughed. "Those are my brushes, sillies!" Then she pointed to where one part of the leg joined another. A curious little notch, with a wee bit of prong at the opening, was to be seen. "Know what these are for?"

Twinkle, Nimble, and Blink shook their heads and the honeybee was pleased to see the crossness and puckers becoming fewer.

"That's how I keep my antennæ—'feelers,' humans sometimes call them—clean. See!" Gently she rubbed her antennæ back and forth over the notch and its wee prong, until not the tiniest speck of dust or dirt could be seen upon them.

"My, my!" cried Twinkle, admiringly. "No wonder you honeybees always look so neat!" And he glanced at his friends, who nodded their

heads slowly, and Fuzzy saw that the crossness and puckers had almost, if not quite, vanished.

"And did you know," the honeybee continued, "that we bees carry towels and wash cloths with us, too?"

"Towels? Wash cloths?" repeated the fairies. Fuzzy nodded.

"Where? How?" For answer the honeybee stretched forth her long, flexible tongue. "See; we use our tongues to clean each other and the babies and our precious queen, so there is never any excuse for any of us not to look just as neat and clean and handsome—"

"Well, I declare," gasped Twinkle. "Brushes and combs and towels and wash cloths—right there?"

"To be sure. And how could any of us dare to be dirty and untidy and lazy—for it is lazy to be dirty and untidy—when our Heavenly Father put them right here on our little bodies, all ready for us to use?"

"Well, honeybees aren't one bit cleaner, or neater, or—better—than fairies—so now!" declared Twinkle. Then he stopped and he hung his head a moment. "I tell you, Fuzzy, it was like this: We were all of us dreadfully cross this morning—Nimble and Blink and I—because our Fairy Queen had said we could not come to her party tonight—unless we washed and combed and brushed and scrubbed, and—well, I guess we were just too lazy and careless, but now you watch us! You honeybees can't beat us fellows one bit in being clean!" So, singing this gay little song, they flew away:

"Oh, we'll wash, wash, wash,
And we'll brush, brush, brush,
And we'll get so clean today
That our Fairy Queen will be glad
she said
We might come to her party gay!
Oh, it's scrub, scrub, scrub—
And it's rub, rub, rub—"

Fuzzy could not hear the rest, but she smiled to herself, then gayly laughed aloud. "The silly little rascals," she murmured, "how could they have been happy, with their hair so frayed and their coats so mussed and their hands not clean?"

And I know she is right, don't you?

Note: Suppose you ask grandma to lend you her reading lense, and ask daddy to give you a bee to look at—but don't let it sting you; and then take a good long look at your Fuzzy's front legs and see if you can

see the little combs and brushes. They are there, and if you were right here with me this minute, you and I would look and then try to draw pictures of what we saw, wouldn't we?



There once was a boy named McCarty,
Who was known as a regular smarty.
He picked up a bee,
That he thought was a flea—
And repented his action most heartily!

Did You Know?

That the Hindoos have a curious old legend which says when the Gods of Light began gathering star dust to make this earth, they decided to place upon the new planet their two most valuable treasures. So they met in solemn conclave to decide which gifts these should be. They argued of this and of that for many a day, and finally agreed no greater treasures could possibly be given to the future peoples of this new planet than the wheat seed and the honeybees. Consequently this was done. What do you think of their choice? Could you have chosen better?

Is It the Strain of Bees?

I have bought fifty to two hundred packages of bees each spring for over ten years and am convinced that much of the loss of queens in packages is due to the strain of the bees. Many are like the western range horse—not quite gentle enough to settle down to business—so the queens are killed. We can feed the bees sugar syrup, disturb them as little as possible, and get by in a fashion.

I have had queens that wouldn't stop running long enough to lay an egg in two weeks. However, we are so well pleased with some shipments that we are still buying package bees.

David Pile, Montana.

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

FIGHTING FOULBROOD

1. Will you please give me a little information concerning the most approved methods of combating American foulbrood? When Hutzelman's solution was being advertised so strongly, I used it, but with only partial success.

2. Have you ever heard of any method whereby honey has been processed so that it resembled and could be used much as granulated sugar is used on breakfast cereals?

Answer—1. The Hutzelman solution does not succeed in every case because of the difficulty of inserting it in every cell. Some people, when they find foulbrood, destroy everything—bees, hive, combs—by fire. But it has been found fairly safe to save the bees by keeping them two or three days without combs, scorching the hive with a plumber's torch, and melting all the combs into beeswax, burning only such combs as have brood.

2. Honey will usually granulate during cold weather. In fact, some honey will granulate as soon as the weather cools. This honey you can use as you would sugar. But the customers seem to mistrust it, although it is the very best honey that granulates in this way.

QUEENS THAT WON'T LAY EGGS

About five weeks ago I ordered five pure Italian queens and I introduced them 100 per cent. I have been examining them every week. Two of these queens are laying and plenty of bees coming out, while three of these queens have not. In five weeks since I had them, they have never deposited an egg anywhere I can find. No young brood at all and the colonies are somewhat weak by now. I wrote the breeder where I got the queens. In this case, what do you think could be the cause? Today I saw the queens on the combs and they look like big, healthy queens, full of pep. If they had been virgins it looks as if they should have mated here long before now. Give me your idea on above. I have more ordered to replace them.

TEXAS.

Answer—I must acknowledge that I do not know why a healthy queen should fail to lay. There is only one possibility in my mind, and that is if the colony is short of stores.

If the colony has plenty of honey and is fairly strong, I cannot explain the queen's failure to lay.

THE CHLORINE TREATMENT

I have been requested by our local beekeepers to ask your opinion of the value of the chlorine treatment for American foulbrood. Would you tell us, please, what you know about it?

I understand that you have been testing the value of high test hypochlorite as a disinfectant. Have your experiments gone far enough to enable you to determine its relative efficacy, cost, and effect on combs? Does either chlorine or hypochlorite solution leave any odor or residue in the combs so that honey stored in them will be affected in flavor?

ILLINOIS.

Answer—Although the hypochlorite treatment appears to work well where it is very thoroughly applied, the consensus of opinion is that the combs which are suspected of foulbrood had better be rendered into wax by the hot water treatment, as they are thus kept at the boiling point of water for a half hour or more and the danger of

transmitting disease is entirely avoided. I doubt that combs that have been treated could be used for the storage of surplus honey without leaving some odor when the honey is extracted.

BEE STINGS FOR RHEUMATISM

I have been showing my doctor some articles which appeared in the Journal in 1927-28 in regard to bee stings for rheumatism. He is very much interested and wishes to know what the poison in a sting is called and where one can buy it.

I read once of a lady who made a living extracting poison from stings for sale. If you could give me any information as to where it may be bought and what the poison is called, I would appreciate it.

WISCONSIN.

Answer—Nothing new has been found regarding the poison in the honeybee. It is a poison similar to formic acid, but it has been ascertained that it is not identical with it.

This is about all I can give you concerning the effect and use of bee sting poison. For rheumatism, I found by my own experience that abstaining from meat consumption is a very much better prevention of rheumatism than bee sting, for I used to be very much subject to rheumatism and have prevented it altogether by abstaining from meat consumption.

PLANTING FOR HONEY

I greatly enjoy reading the American Bee Journal. I have a few hives. Have one hive of Italians and the others are just bees. Would greatly appreciate it if you would suggest two or three crops to plant here in southern Mississippi for bees. I am a beginner in the business. I have patent hives.

Have you any suggestions for keeping web worms out of the hives other than keeping them as strong as possible? Thanks.

MISSISSIPPI.

Answer—The only plant I know of which has been recommended in Mississippi is sweet clover (*Melilotus alba*), but it may not do so well as far south as you are. Willow appears to be one of your principal honey producers.

If buckwheat will do in your section, it would prove a very good honey plant; although its honey is rather dark and strong in flavor, many people like it.

Regarding the waxmoth, which is the "web moth" to which you refer, the only way to kill it is to submit the combs containing it, or which are threatened with it, to the fumes of sulphurous gas, by burning brimstone in the room where it is located. This end may be reached also by putting a tumblerful of water and two tumblersfuls of sulphuric acid in a glass vessel, being careful to put the water in first. Add a spoonful of plaster and close the vessel. Sulphurous gas is at once produced in large quantity.

If you have combs that are immune, keep them in a closed room where the waxmoths cannot get at them.

REMOVING BEES FROM A BRICK HOUSE

A swarm of bees, evidently "wild" ones, have found an opening between the bricks of my two-story stone and brick residence and are making honey between the ceiling

of the first floor and the floor of the top story.

Is there any way to get them out without destroying them? I would like to save them if possible, and have purchased a Dadant outfit, but have not been able to induce the bees to enter the hive.

I have no other bees and am profoundly ignorant of their habits, etc. If impossible to remove them, how shall I kill them?

GEORGIA.

Answer—To my mind, the quickest and most practical way to get those bees is to take up just enough of the floor in the upper room to uncover the cluster of bees. It is quite probable that they will have only a little comb built. You may either cut this out and fit it into frames and put the hive there for a few days, or just place the hive without its bottom board right over the cluster. If you put comb foundation in the frames, the bees will soon get up on them and breed there. Then, some nice, cool night, remove the entire colony to some spot on the outside, keeping them closed up long enough for them to realize that they are being moved. Of course, you must close up the entrance in the wall when you remove the bees, so that none of them will return.

It would be rather difficult to kill those bees by fumigating them from the outside, so I believe the above method will be easiest. They could probably be killed by using the waxmoth fumigator advertised on page 34 of our catalog.

CHLORINE GAS—AGAIN

Have you had any more information on treating foulbrood with chlorine gas? Please let us know by return mail what success this is giving and also just how to use it.

NORTH DAKOTA.

Answer—We have had but little information regarding success or failure in the matter of treating combs. But we know of several who have failed, most probably because of some careless action. It takes so very little to permit the germs to propagate that we feel like advising the beekeepers who have the trouble to destroy all the combs containing brood and render the others into beeswax. We see more and more the advisability to recommend the destruction by fire of all that has to do with foulbrood.

From the Little Blue Kitchen

(Continued from page 483)

There's an old saying that puts on a new significance each Christmastide, namely: "It is more blessed to give than to receive."

— o —

A Fireside Tea

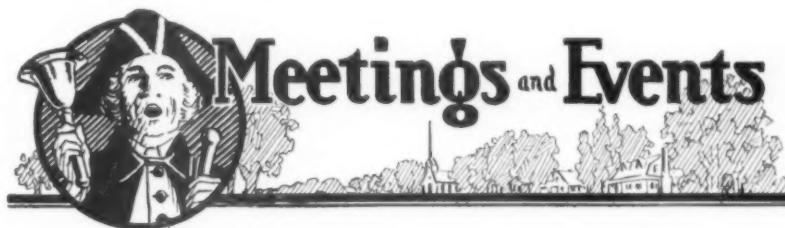
Honey Lady was entertained last month at the home of Dr. and Mrs. Henry J. John, of Cleveland. Dr. John is at the head of the only organized camp for diabetic children in the world. There he sees hundreds of mothers come into his clinic with their diabetic children, to whom they must administer insulin several times a day, **EVERY** day, to keep them alive! He started this wonderful camp in the midst of a forty-acre tract of glorious woodland, and there the boys and girls go for a month while their mothers get a real rest. The doctor was a little Czech boy, 14 years of age, when he followed his parents to America, but he

made good in a big way because he had determination and a fixed goal—in his case to become a physician! Does that mean anything to little American children reading this paragraph?

Anyway, it's consistent to mention Dr. and Mrs. John in the Blue Kitchen, because they are constant honey eaters. At breakfast, in an adorably artistic breakfast nook, Honey Lady was served extracted honey with French toast. Coming in from a drive in a raw Sunday afternoon along Lake Erie, it was the coziest thing in the world to be given a big arm-chair before blazing

backlogs. It was also delightful to have Mrs. John, looking very beautiful in her tall, graceful, blonde way, and wearing the chirkiest of tea aprons, bring in cups of fragrant tea in Czech-Slavokian cups and a portion of Honey Lady's favorite sweet, called by Mrs. John a "honey hunk." This, eaten with biscuits cut in diamond shape and of a fairy lightness, made a delectable feast for a hungry guest!

Try the combination sometime—fireplace, honey hunk, hot biscuits, tea or coffee—and see how **YOU** like it.



Club Girls Like Honey

There is much interest in honey on the part of the 4-H Club girls in Iowa. Miss Lulu Tregoning, who has the work in charge, has been cooperating with Prof. F. B. Paddock, state apiarist, in helping the girls to a better understanding of the place which bees and honey may have in the production of a food supply.

More than twelve hundred girls in twelve counties have studied the use of honey during the past year and some new and original recipes have been developed. The following home-made cereal was given to the bread clubs of Iowa by the Johnson County demonstration team:

3 1/2 cups whole wheat flour

1 t. soda

1 t. salt

Add one cup honey and enough buttermilk to moisten. Bake like cake in a modern oven. Break into small pieces and grind in food grinder and brown in oven. Store in a covered jar in cool, dry place.

It is described as a delicious breakfast dish with nutty flavor. A large number of honey recipes have been tried by the girls and much enthusiasm is manifested.

Institute Busy These Days

State associations, holding their annual meetings now, are making such demands on the office of American Honey Institute for scrap books showing the Institute activity in their own state that we have not been able to make up a report on National Honey Week. Through the kindness of Mr. Stover and donations which he has secured from southern queen breeders, American Institute now has a clipping service, at least for the

month of November, to get news from all over the country about National Honey Week. Beekeepers who have information about outstanding Honey Week activities will please send reports to American Honey Institute, 417 North Few Street, Madison, Wisconsin, so that we may be able later to make up a report of the activities of this national event.

The clippings so far received are interesting. Practically 90 per cent contain recipes for the use of honey. Clippings have come in from thirty states and two foreign countries. As soon as state convention rush is over, Institute will write secretaries and individuals to get their reaction.

It has been a busy time and we feel we are confident now that our annual Honey Week has been again a great success.

Indiana Convention

Indiana beekeepers announce that their regular annual meeting will be held at the State House, Indianapolis, on December 16 and 17. Those interested may secure details by writing secretary, James E. Starkey, state apriary inspector, at Indianapolis.

Good Investment

Knowledge does not depreciate in value. That is why the practical home-study courses in farming of the North Dakota Agricultural College continue to be popular. This institution offers to help you add to your permanent investment — through twenty practical farm and business home-study courses. Four thousand people have enrolled and 75 per cent have taken more than one subject. Instruction is free outside of the

cost of postage, mimeographing, and paper used. A diploma is awarded for work completed.

Business training and farm training beckons to you. You are invited by North Dakota to make use of this opportunity. The Department of Correspondence Courses, State College Station, Fargo, North Dakota, will be glad to send you a circular describing all these courses:

Beekeeping, Poultry, Advanced Poultry, Turkey Raising; Fruits, Vegetables and Trees; Forage Crops, Small Grains, Dairy Cattle, Dairy Products, Sheep Husbandry, Swine Husbandry, Beef Cattle, Feeds and Feeding, Farm Structures, Farm Management, Dairy Herdsmen's and Cowtesters' Course, Business Letter Writing, Typewriting, Shorthand, Bookkeeping, Floriculture.

T. W. Thorason,
N. Dak. Agricultural College.

Golden Rule Week, December 11-18

Golden Rule Foundation, Lincoln Building, 60 E. Forty-second Street, New York, is now launching a drive for funds for the helping of underprivileged children and unemployed people. They are particularly anxious that people this Christmas who are without jobs and money shall not go without their usual Christmas cheer.

The Foundation suggests that people during the annual holidays, especially during the week of the eleventh to eighteenth of December, serve more economical meals and save the difference for the Golden Rule Foundation, whose address we have just given. This will make it possible for them to bring cheer into the lives of a good many people.

Virginia Swings to the Support of the Institute

The members of the Virginia State Association are swinging to the support of the Institute in both honey and money.

A committee including Henry W. Weatherford, W. A. Caldwell, J. L. Winebarger, J. Philip Vinson, Kendall Asher and A. D. Hiatt met at the home of T. C. Asher to plan a National Honey Week program for the state. We had as our guest of honor Lynchburg's successful grocer, J. W. Bibee, who owns and operates seven of the most complete food stores in the city.

Mr. Bibee agreed to advertise and accept displays during National Honey Week. He ordered his store managers to give beekeepers the best locations and as much room as needed. H. G. Spencer, manager of Bibee's City Market, saw an opportunity to put in a surprise window. On Saturday, November 5, he decorated an entire show window featuring honey. So great was the interest

that he repeated the job the next Saturday on a larger scale.

Approximately four hundred packages of honey were sold through these displays. Other industries pay huge sums for this kind of advertising. American Honey Institute, sponsoring these programs, would be pleased with one-half of one per cent of our sales.

Beekeepers throughout the country are unanimous in their desire to support and increase the work of the Institute. Let's put our desires into realization. Beekeepers around Lynchburg must not forget to lend a hand in advertising and trade at Bibee's when in Lynchburg.

A. D. Hiatt, Virginia.

Iowa Syndicated Material of Great Help

Material on honey is constantly pouring out from the Extension Service of Iowa State College with the active cooperation of the Home Economics Department and leaders in boys and girls club work. The able assistance of Dr. Nelson and Miss Tregoning enables Prof. Paddock to get across a honey story which is in a way unique.

Honey is becoming an every-day topic among the younger generation of home makers in this great state. Iowa now ranks second in the United States in honey production and it certainly is well toward first place in the consciousness of its people in bees and bee products. With an agricultural population spread out over an extremely fertile plain, Iowa is easily accessible to the intelligent use of informational material. One is constantly impressed, in traveling about Iowa, with the evenly distributed population, in small towns and outlying districts, admirably connected by roads second to none in the Union.

Northwest Beekeepers' New Five-Year Plan

At the recent convention of the Oregon State Association at Portland, a five-year plan for honey development in Oregon was launched. It was the keynote of activity. H. A. Scullen, associate professor of entomology of Oregon State College, Corvallis, Oregon, will be glad to furnish information on the objectives of this five-year plan. We understand that they propose a uniform marketing plan, improvement of exhibits, a five-year convention of all beekeepers on the Pacific Coast, and other items of which we are now informed.

The following officers were elected: J. Skovbo, Hermiston, president; S. D. Williams, Portland, vice-president; H. A. Scullen, Corvallis, secretary-treasurer. The following com-

mittee chairmen: Lewis M. White, Keasey, educational; inspection, A. J. Sanford, Redmond; organization, W. B. Thomas, Milwaukee; marketing, S. D. Williams, Portland; research, Lee S. Turner, Eugene; exhibits, W. G. Rodda, Hermiston.

C. M. Litteljohn, Washington.

Pacific Blends Bothersome

C. W. Higgins, of Wapato, president of the Washington State Beekeepers' Association, announced recently that unfair practices by honey distributors were injuring the local markets. Inferior honey from the Hawaiian Islands and the Imperial Valley in California has been shipped in, mixed with some high-grade Washington honey and sold at cut prices, which the producers of good honey have been obliged to meet.

I. L. Neill, Washington.

Yakima Remains Vigilant

Continuance of the foulbrood campaign in the Yakima Valley has been voted by the Yakima County Beekeepers' Association. It will be kept up as long as funds remain.

W. C. Wixon, bee inspector, visited bee yards in September containing 5774 colonies, of which 1605 were examined. Of this number 157 were found to be infested with foulbrood.

In the first twenty-six days in October he visited bee yards containing 3988 colonies, of which 112 were infected.

I. L. Neill, Washington.

Changes in Washington

Changes in the bee inspection law for the transfer of that service from Washington State College to the State Department of Agriculture will be asked of the State Legislature this winter, C. W. Higgins, of Wapato, president of the Washington State Beekeepers' Association, announces.

The move to obtain the change was approved by the county association. Arrangements to make the wishes of the association known to the Legislature will be considered in a meeting of the state organization in Olympia, November 21 and 22.

Legislation providing for registration of bee colonies was favored at the meeting, and the Legislature will be asked to provide for it.

I. L. Neill, Washington.

Indiana Short Course in January

This year Indiana will again have a Short Course at the Union Building at Purdue, beginning Tuesday morning, January 10 and concluding Thursday noon. V. G. Milum of the University of Illinois; B. E. Montgomery of Purdue; and G. H. Cale of the American Bee Journal will carry the main part of the program.

Crop and Market Report

Compiled by M. G. Dadant

For our crop and market report for our December Crop and Market we asked the reporters to answer the following questions:

1. In what condition are bees going into winter?
2. How is honey selling locally?
3. How is the jobbing demand?
4. What retail price for five pounds? Ten pounds?
5. What price for ton lots? Carload lots?

Condition of Bees

In most instances the bees are going into winter quarters in wonderfully fine shape, owing to fairly good fall crop and a good breeding season throughout the fall which has made the colonies strong. We do find in a number of instances, however, that the bees are going in short of stores. This is true in the Southeast, including Alabama, Mississippi, parts of Georgia and parts of Florida. The same difficulty is true in Colorado, especially eastern Colorado, where the crop has been unfortunately poor for the past three years.

A number of reports are coming in, particularly in the white clover sections, of the wonderful condition in which white clover plants are going into the winter. It would appear from what we can prognosticate at present that 1933 should be a white clover year in most sections.

Honey Selling Locally

Few sections have reported rather more than the average of sales in honey locally, and those we refer to are the New England states, parts of New York, and the plains states. Surprisingly, the plains states almost universally state that honey is moving very readily locally, and this is similarly true of most of the New England states. In the one case the New England states are in a section of small producers and are maintaining their prices satisfactorily and honey is moving readily.

In the case of the plains states the honey prices have been cut for local sales, and even in the intermountain states we find that honey is selling almost at the price of syrup. When you get the price of honey that low, no wonder the local demand grows. A large number of car lot producers, instead of selling car lot, now are trying to find the local outlet and in many cases are succeeding.

Jobbing Demand

In confirmation of what is written above, the jobbing demand has been universally slow and this has caused a large number of the car lot producers to try to sell locally. They are undoubtedly succeeding, at least to some extent. We have a number of reports from northern areas, however, that the jobbing demand is picking up and that there is more inquiry for car lot shipments than there was earlier. It looks to us like the situation would clear up within the next month or two and that honey should not get lower, but should appreciate in value as the season goes on.

Retail Prices

As always noticed before on this page, retail prices are slightly diverging as to the amount received by the producer. We still have some reporters who are getting nearly war time prices for their honey—in the neighborhood of \$1.00 for a five-pound pail and \$2.25 for ten pounds. These are, however, becoming more and more isolated and the usual price, varying with the section of the country, runs from 35 cents to 60 cents for a five-pound pail and from 60 cents to \$1.20 for a ten-pound pail. As usual, the prices are generally lowest in the large producing territories, where, as stated before, honey is now competing with Karo and other syrups on an even basis. This should make for heavy sales of honey.

We have reports of one beekeeper selling in carload lots five-pound pails of honey, put up in cases of twelve, at \$4.00 per case, delivered price. No doubt the honey will move at this price, although we have seen offers of \$100.00 per ton for honey put up in five-pound pails and delivered to eastern points. This is about the low limit.

Carload and Jobbing Prices

Like the retail prices, the ton and carload prices also vary with the section of the country. In the East we find white honey commanding a price of from 6 to 8 cents per pound in ton lots, with the carload price around 5 cents per pound. As we work west the price ranges about 5 cents in ton lots and 4 cents in carload lots, with a minimum of 3½ cents for good white honey. We would think that the average carload price for good white honey will run about 3½ to 4½ cents F. O. B. the western shipping points.

All in all, honey is not moving in jobbing lots sufficiently to correspond with the retail prices on honey and there appears to be a slight glut, partly caused by the loss of our export market and partly from the fact that the jobbing buyers are only buying from hand to mouth instead of getting their entire supply early in the season, as was previously the case. We believe, however, that this will gradually clear up and that the retail demand on account of the low price will eventually more than make up for the loss of our foreign markets, particularly as our crop this year has not been exceedingly heavy.

Canada

I cannot end this report without giving an idea of what is happening in Canada. Since the tariff agreement between Great Britain and her colonies giving a preference to the colonies in shipments to the mother country, a quickening of the demand for Canadian honey on the British markets, combined with the duty on other honey, has made for a much better feeling in the Canadian provinces. The price of honey has jumped from 1 to 2 cents per pound and there seems to be no difficulty whatever in being able to dispose of the entire crop of honey this year at very nice and remunerative prices. The western provinces at any rate were taking care of their own demand and did not figure any difficulty in disposing of the crop, and this new move will make it possible for Quebec and Ontario and the eastern provinces to also clear up their crop. The price, we think, will run about 7 cents to 8 cents for good white honey. Naturally, most of the Canadian crop is packed in the smaller packages and shipped under Canadian brands to the British Isles, although some is moving in bulk.

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The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

HONEY FOR SALE

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—White clover honey in 60-pound cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

HONEY—We sell the best. Comb in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-230 West Huron St., Chicago, Ill.

NEW CROP shallow frame comb honey, also section honey; nice white stock, securely packed, available for shipment now. Colorado Honey Prod. Ass'n, Denver, Colo.

FOR SALE—Northern white, extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

WHITE clover extracted honey. Write for prices and samples. Kalona Honey Co., Kalona, Iowa.

HONEY FOR SALE—Keep your customers supplied with honey. We can furnish white and light amber honey at attractive prices. Packed in 60-lb., 10-lb. or 5-lb. tins. Dadant & Sons, Hamilton, Ill.

PALMETTO Mangrove or amber honey in barrels. Peter W. Sowinski, Ft. Pierce, Fla.

NEW crop honey. Choice sweet clover extracted. Thomas Atkinson, R. 5, Omaha, Neb.

WHITE CLOVER honey, extracted, comb and chunk. One-pound sample 15c in stamps. F. W. Summerfield, Grand Rapids, Ohio.

HONEY for sale from clovers and fall flowers. New cans and cases. Can to carload. Samples free. W. S. Earls & Son, New Canton, Ill.

COMB and extracted in most any form wanted. State your wants. H. G. Quirin, Bellevue, Ohio.

CLOVER HONEY—New cans, \$6.00 case. Sample 15c. Edward Klein, Gurnee, Ill.

FOR SALE—White clover comb and extracted in 60-lb. cans. C. Holm, Genoa, Ill.

CHRISTMAS comes but once a year and you will need some of our great health sweets for yourself and friends at once for your health and gifts for your many friends. A box of maple cream, sugar or 100 per cent pure maple syrup would be especially appropriate. Write for special wholesale prices at once. Griswold Honey Co., Madison, O.

BUSKWHEAT comb honey, fancy, \$2.00; No. 1, \$1.75 per case 24 sections. Noel J. Loucks, Springboro, Pa.

CLOVER, mixed flowers, 6c per pound; light amber, 5c, case lot. Sample 15c. Sylvester Legat, Spring Valley, Ill.

FOR SALE—Buckwheat honey, \$4.80 for 120 pounds. Edw. Hogan, 210 Gibson St., Canandaigua, N. Y.

FOR SALE—Comb honey, all grades, lower prices in quantity lots. Write N. B. Querin & Son, R. 4, Bellevue, Ohio.

MICHIGAN clover-basswood honey for sale; 30,000 pounds. Ralph Blackman, Port-land, Mich.

HOWDY'S HONEY—Excellent white ex-tracted in sixties, from central and northern Michigan. Howard Potter, Ithaca, Mich., or 69 Perkins Hall, Cambridge, Mass.

FANCY white clover, also buckwheat ex-tracted. Write F. J. Smith, Castalia, O.

AMBER and light amber, case or ton. F. S. Miller, Valparaiso, Ind.

TUPELO honey; will not granulate. Shipped in any quantity. Anthony Bres' Honey Co., Apalachicola, Fla.

CLOVER honey, chunk and extracted. Five-pound pails and sixties. D. H. Morris, Swanton, Ohio.

HONEY AND BEESWAX WANTED

WANTED—A car or less quantity of white honey in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, 816 Hazel St., Birmingham, Mich.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Hamilton, Wallace & Bryant, Los Angeles.

WANTED—CARLOADS OR LESS ALL GRADES EXTRACTED HONEY AND COMB HONEY. Mail samples and delivered price. C. W. Aepple Company, Oconomowoc, Wisconsin.

CAPINGS and old combs for rendering: 5c per pound for rendered wax. Either wax or cash for pay. D. H. Morris, Swanton, Ohio.

FOR SALE

FOR SALE—300 colonies bees; all painted factory equipment, wired combs on full sheets foundation. Or, after January 15, will sell as nuclei or package bees. L. L. Ferebee, Pineland, S. C.

200 STANDARD ten-frame comb honey supers. Health certificate furnished. Chester Keister, Orangeville, Ill.

BEES, honey, beekeepers' supplies. Money-saving prices. Crenshaw County Apiaries, Rutledge, Ala.

VERY profitable bee business for sale in Canada. Sacrifice price. Address Box S, American Bee Journal.

SUPPLIES

FOR SALE—Reif Rapped cut comb cartons will move your honey at a profit. E. H. Reif, Kalona, Iowa.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

FOR SALE—We are constantly accumulating bee supplies, slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

MISCELLANEOUS

BEEKEEPERS—Improve sources of nectar by planting vitex trees or seed. Two-year-old trees, 40c; one-year-old trees, 25c. New tested seed at \$1.00 per ounce. All prepaid. Joe Stallsmith, Galena, Kans.

PLANS FOR POULTRY HOUSES—All styles; 150 illustrations. Tells you the type to build for your particular locality. Secret of getting winter eggs, and copy of "Inland." Send 25c. Inland Poultry Journal, 523 Holliday Bldg., Indianapolis, Ind.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, Brockhill, London Road, Camberley, Surrey, England.

Let's Act in an Emergency

This letter is not for fame, but because I feel I must write it. Having ceased some years ago to consider myself a commercial beekeeper, I had not contributed to the work of the Honey Institute; I felt no urge to do so, although I knew good was being done through that institution.

Recently its needs and its work were brought forcibly to my attention. My interest in bee work was revived this spring when I started repairing hives and making increase with great zest. Now I want to do what I can to help the Institute in the present crisis.

Funds are exhausted. We individual beekeepers who have not done so should rush our contributions. Money is not coming our way as it once did. We have slumped along with the rest, but we must contribute what we can, and I hope many of the beekeepers who read this will do so until a plan has been worked out whereby the Institute may be placed on a safe financial basis.

Send your honey, 20 pounds per ton, to any of the Institute receivers on page 467. Send your money, \$1 per ton, to The American Honey Institute, 417 North Few Street, Madison, Wisconsin.

Harry Lathrop, Wisconsin.

Caucasians—Ugh!

After having tried three strains of Caucasians, one an importation, I think that the introduction of these bees will prove to be one of the worst things that has happened to beekeeping in twenty-five years.

I fail to see where there is any dependable evidence to show that Caucasians have anything to recommend them over good Italians. Even if the advantages claimed for them are real, the way frames are glued to the front of the hives and the

lower front corners of the combs plastered with the abominable stuff and the burr and brace combs everywhere, they must show far greater superiority in every way before I can tolerate them. I surely cannot recommend them.

E. G. Carr, New Jersey.

A New Hungarian Book

"Fortschritte in der Bienenwohnungsfrage" is the title of a new book by Alexander von Matyas ("Progress Made on the Question of Beehives").

The book is paper bound, contains 320 pages with many illustrations. The author has gone very fully into the question of hive sizes, frame shapes, etc., making many references not only to the American but to many other countries' beekeeping standards. The book is a welcome addition to the library which is used for reference purposes.

Copies may be obtained by addressing the author at I Istenhegyi ut. Nr. 7, Budapest, Hungary. The price is R. M. 7.

Man and the Honeybee

A little book of about forty pages comes to us from far-off Ceylon. It is entitled "Man and the Honeybee" and is published by Milton Press, Bambalapitiya, Ceylon. A. P. Goonatillake is the author.

From the book we quote the following concerning the bees of that country:

"In Ceylon we have four species of honey gatherers, of which *Apis Dorsata*, or the giant bee, is the largest. *Apis Indica* comes next and *Apis Florea* the smallest. *Melipona Iridipennis* is also a honey gatherer, though it does not belong to the genus *apis*. *Apis Dorsata* lives in the open, building a single comb, suspended to a branch or some other convenient support, such as the arch of a building or the underside of a bridge or rock. Though Bambarra bees gather a large quantity of honey, it is impossible to keep them in a modern box-hive. The honey is excellent, though the quantity stored is small. *Melipona Iridipennis* builds in cavities and produces a collection of sacs in which the honey is stored. These sacs are not made of wax, but of a resinous substance. The honey of this variety is highly esteemed in Auyurvedia medicine."

Apis Indica is the only honey gatherer that builds parallel combs in sheltered places, such as hollows of trees, clay pots, ant hills, boxes, etc. It is therefore the only one that can be induced to build combs and store honey in modern hives.



**"GIMME ONE,
me sister's got it"**

A ragged, dirty newsboy blurted, "Gimme one, me sister's got it," and dropped on the marble counter* a single penny that tinkled lonesomely. He was buying one of the first Christmas Seals sold in the United States for anti-tuberculosis work. The need was great. He knew. His sister had it. Today Christmas Seals help protect you and your family, for although the death rate from tuberculosis has been reduced two-thirds it still kills more people between 15 and 45 than any other disease. Your pennies make possible free clinics, nursing service, preventoriums, and educational work that mean cure for some, relief for many, and hope for all.

*In the lobby of the Philadelphia "North American," Dec. 13, 1907

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Why Can't We Get Together?

By Wilbur Sheron
Indiana

We hear a lot in our bee journals about cooperation, but I wonder how many beekeepers really know what that means? Let me give you a digest of an article from "Advertising and Selling," written by Amos Stote, on cooperation in Great Britain. The title of the article is "A Billion Dollar British Market."

"Britain's biggest retail organizations are owned by that familiar character, the man-in-the-street, and his wife. He also owns a great variety of commercial and social undertakings, if he happens to be one of the six and one-half million members enrolled in the different British cooperative societies. About one person out of every six and one-half is a member of some cooperative society in Great Britain.

"Hardly an industrial town but has its cooperative society and stores, where members buy at current prices and receive rebate according to the amount of their purchases, from the money that in a private concern would be divided among the stock-holders as profits. They also receive a constant rate of interest on the capital they have invested in the society.

"Linking up these local societies is the Cooperative Wholesale Society, with headquarters at Manchester, which owns and operates warehouses, flour mills, soap factories, canning factories, textile mills, coal mines, farms, and depots and buying agencies in all parts of the world. They own tea plantations with their own blending and shipping warehouses. They are shippers and bankers and operate insurance departments. They own and operate colleges, training schools, newspapers, magazines and churches.

"The trade turnover of the British cooperatives is more than \$1,500,000,000 a year, and is steadily growing in spite of hard times—perhaps as a result of hard times. It has taken a century for the cooperatives to develop, but they are now able to keep their demands before the government. These societies give employment to more than a quarter million members. Considering their growth since 1923, it is safe to say that more than half the people of Britain are in some way helping to support the cooperative movement.

"The interest on shares, capital and dividends on purchases amount annually to a good hundred million dollars. It is the rebates on butter, eggs, boots and this and that, coupled with favorable competitive prices, which interest most of the members.

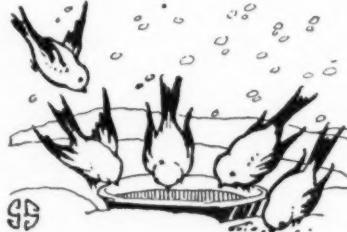
"The trend of the societies is toward increasing the variety as well as the quantity of their own manu-

factured products. It will be a long time before they need not buy from other manufacturers, but in the meantime they offer vast, concentrated buying units capable of consuming the entire production of independent factories.

"One of the things of special interest to the American manufacturer is that these cooperatives are for free trade. It is a great movement going strong."

The article is really much longer than this, but we have given the important parts of it. It has always seemed strange that producers in this country could not get together successfully, as has been done not only in Britain but in some of her dominions.

The Cup of Warm Water



He whose birth we will soon celebrate once assured us that He would remember even a cup of cold water given to the least of His creatures. That He loved birds is evidenced by His frequent references to them during the recorded years of His life. Charity to the birds would seem, therefore, a most fitting Christmas benevolence.

We often think to give birds food in winter. It involves no more than scattering table crumbs on the snow, though if our benevolent instincts be more fully developed we may build feeding trays more or less elaborate. But water is no less necessary to birds than food, and they are often harder pressed for something to slake their thirst than they are for something to eat. This is especially so in severe weather, when the chance pools that usually afford them a supply are frozen solid. It is then that a pan of water set out in a sheltered spot (but one clear of cat danger) will be most welcome to the birds.

And do not set out merely a pan of cold water if the weather be freezing. It will immediately seal itself with ice, perhaps before all the bird clients that visit your yard shall have had a chance to drink. Let it be warmed up—make it as warm as you like your own tea or coffee. Then it will be a long time freezing, for water has an astonishing capacity for heat and loses it more slowly than any other common substance. Birds do not have the same prejudice American humans have in favor of ice water, especially in winter. They

are glad to get something warm to drink. There is no charity bought so cheap that can make so many living creatures happy as a cup of warm water.—Science Service.

Honey Distribution in Cities

By C. M. Litteljohn
Washington

When that recent and masterful work, the fourteenth edition of the Encyclopedia Britannica, was prepared, the very astute and authentic article on beekeeping in all its ramifications placed a knowing finger on a major distribution problem of the honey producers in the United States.

"During the period of the World War," this finger wrote, "the wholesale markets for honey were greatly developed, since considerable quantities of American honey then went to the allied countries. Since that time, however, some wholesale dealers have ceased to handle honey and there has been increasing difficulty in selling honey in large quantities. The ensuing increase in local marketing has resulted in the sale of 65 per cent of the honey crop through markets other than those of the large cities—in an unbalanced distribution of the honey crop, since over 50 per cent of the population is urban."

The greatest urban, or city section, of the country, however, is the Coast. A special representative of the Department of Commerce recently pointed out that with 41 per cent of its population in nine large cities of more than 100,000 persons each, the Pacific Coast is more urban than the country as a whole, because all its cities in excess of 100,000 contain but 30 per cent of the population.

This drift of population to larger cities is a significant factor in the distribution of honey and the handling of honey by large chain outlets. New publicity and demonstrations to increase consumption in a host of culinary ways have become necessary and new large packs to sell double and triple the quantities of the former smaller packs are required.

Many of the chain stores are featuring honey in larger packs as more extensive culinary use is made of this product by city people. One of the large western distributors has been steadily building western markets on the urban coast, with its large percentage of city dwellers, by featuring new uses of benefit and value to those living in cities, such as honey with cereals and coffee for breakfast, baking apples with honey, giving honey on bread as afternoon snack for returning school children, and a host of other delightful services which honey may perform in the modern city home.

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The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

One balmy day in October I spent some time watching beside a clump of late flowers. It was surprising to see what a variety of insects came in search of something. Butterflies sipped the nectar and flitted about carelessly in the sunshine. Honeybees eagerly sucked the scant supply of sweet and filled their baskets with the pollen. Several varieties of beetles were feeding there.

I was impressed with the fact that the honeybee seemed to be the only visitor which paid its way. A caterpillar was busy eating the heart from one of the flowers and thus destroying hope of any seed forming. A crab spider hiding there awaited the coming of an unfortunate insect which might supply its dinner. The longer one looked the more he saw. There is an amazing series of events going on under our very eyes of which we are entirely unconscious.

— : —

There is a heavy mortality among the field bees as they go about their labor of gathering the honey harvest. Intent on the business of garnering, they fall an easy prey to the many predacious insects which frequent their paths. I recently found three honeybees in the web of one banded garden spider. Ambush bugs and robber flies capture great numbers of them. It is only the enormous egg-laying powers of the queen that enables them to hold their own, following a peaceful occupation of honey gathering; paying for all they get by service rendered the plants by assisting in pollination, but amid a world of fierce predators constantly preying upon them.

— : —

Madison Cooper, editor of *Flower Grower*, is boasting for a return to the old-time individual independence. He does not propose a back-to-the-land movement in the sense that he advises folks with other occupations to take up farming. Rather, he suggests that the fellow whose income has been seriously reduced get hold of a small plot of ground where he can raise a garden, keep a few hens and perhaps some bees. In this way he will be in position to withstand the shock of loss of the paycheck for some time without serious suffering.

Cooper writes: "I always back the farmers when it comes to downright gumption and ability. Put the city man up against hardship, danger or catastrophe and he is helpless. The country fellow can wiggle out of almost anything you put him into."

— : —

An expression of opinion is seldom safe unless one is fully acquainted with all the conditions bearing upon the problem under consideration. A South Dakota beekeeper wrote that he was considering wintering his bees in the cellar with both tops and bottoms of hives removed. I had good results some years ago with bees placed in the cellar with the bottoms removed, but tops left in place. Mr. Dadant assured me that he succeeded in wintering in this way with both tops and bottoms left on the summer stands. I could see no reason why the experiment should not be successful. Later I learned that most of the bees died where hives were taken into the cellar without either top or bottom, but that the colonies came through where the hives were carried in with them in place. The older I grow, the less sure I feel about any phase of the wintering question.

— : —

I can remember but few seasons when the bees were able to find some flowers open until November. The first week in November this year still finds some late asters in bloom, as well as a few garden flowers in protected situations. When the air is balmy the bees may be seen eagerly seeking something among the blooms.

— : —

I tuned in on "Jim" Hambleton's honey broadcast just in time to hear the lady ask him which is the best kind of honey. "Jim" sidestepped that one by saying every beekeeper knows that his particular kind of honey is the

best, and hinted that she might get him in bad with the beekeepers. It reminds me of the time, at the St. Petersburg, Florida, meeting when Dalton and Bohne told Hambleton that the fellows in the white clover region are not good judges of quality in honey.

— : —

With reference to the November postscript comment on grapes for winter feed in cold climates, L. E. Orr writes that his article had no reference to winter feeding. But he says their Muscat grapes often hang on until February, and when frosted and partly dry on the vines contain a high per cent of sugar which is good for their bees. He states that unless the bees get too much, resulting in fermentation of the syrup, it provided a very good feed and is often valuable to his bees. Here again we see the difference in local conditions. California Muscat grapes are very different from our eastern Concordes and the climate there is so mild that the bees will seldom be confined for long at a time.

— : —

Archie Thomas, of Square Butte, Montana, writes a flattering letter after having read "Flowers of the Wild" from preface to finis. He tells of a neighbor who came from Sweden thirty years ago with no money, but with an appreciation of the open country has built up a 54,000-acre stock ranch and has an immense area of wild flowers, a wild game reserve and other interesting things. I appreciated the nice things he said about the book and of course I want to visit that neighbor of his who has cultivated nature on such a big scale.

— : —

More enquiries have come to me for Banat queens, but if there is any stock remaining in this country it is unknown at this office.

— : —

Woodman tells us how to be happy on page 481. There is a lot more of that kind of trading going on than most people think. It reminds me of the way I stretched the honey income twenty-five years ago, when the children were small and family needs exceeded family income. I traded honey for all kinds of merchandise and was thus able to have many things which would have been beyond reach had all honey been sold for cash and retail prices paid for things we wanted.

— : —

That new clover described by Bowman on page 475 is sure to arouse great interest among the bee men. When we recall the great boom that followed the introduction of the annual sweet clover a few years ago, we can expect a great scramble to get seed of the new alpha clover. Is this the reported cross between alfalfa and sweet clover, having some characters of each?

— : —

A. V. Kouba enquires where in the old bee magazines is the discussion of the plan of turning the frames upside down to prevent swarming. As I recall, there was much talk of this plan of reversing brood chambers, but that the interest was very short, since it did not prove practical. Turning a house upside down, as sometimes happens when a tornado strikes it, tends to discourage normal activities among human beings. I imagine that the bees found themselves in similar predicament when the beekeeper tried his drastic experiment.

— : —

M. G. Dadant and G. H. (Glory Hallelujah) Cale left here for the Illinois beekeepers' meeting in a snowstorm. After a head-on collision with another car, they came back for repairs (to the cars). Since that time they have been casting up accounts to figure out how much they saved by their failure to attend the meeting. Account to date: Two wrecked cars, two days lost time, and a bee meeting missed. This was Glory's second attempt to go to Springfield recently, and both times the car got wrecked.

Frank C. Pellett.

